Wichita State University – Clinton Hall

Wichita, KS

MEPS Facilities Assessment

Prepared For:
Clark|Huesemann
Lawrence, KS

PEC Project No.:
200624-000

Prepared by:
Brandon Claassen, P.E. (Mechanical)
Steve Vo, P.E. (Electrical)

Date:
December 3, 2020

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PURPOSE:

Professional Engineering Consultants, P.A. (PEC) was engaged by Clark|Huesmann to perform a Mechanical/Plumbing and Electrical assessment of Clinton Hall located on the main campus of Wichita State University in Wichita, Kansas. The purpose of this visual (non-destructive) observation was to determine the current state of the building infrastructure and provide information to WSU Facilities to allow for a better understanding of what needs there might be for any future work.

On September 22, 2020, Brandon Claassen, P.E. (Mechanical) and Steve Vo, P.E. (Electrical) visited the building and performed a walk-thru with WSU Physical Plant Staff (among the staff present were Paul Lytle, Don Harkness, Josh Parsons, and others). Mechanical, plumbing, and electrical systems were observed to understand the general conditions of the buildings as they pertained to operation, maintenance, and applicable Codes. Based on the observations made while in the buildings, this assessment will address any current deficiencies and possible resolutions and areas where potential efficiency gains can be realized as part of a renovation. Each section of this study will go into each building and discipline in further detail.

PEC discloses that our inspection consisted of a visual observation in addition to the use of available existing building plans and conversation regarding known building conditions and challenges with Physical Plant personnel. The inspection was made solely to determine the existing integrity based on the observed condition of the building. This report makes no attempt to verify or quantify that the observed building conforms to the applicable building codes now enforced or the building codes enforced at the time of construction. The conclusions, herein, are professional opinions based upon certain assumptions made regarding the condition of the building that could not be observed without destroying otherwise adequate or serviceable portions of the building. The following is a brief overview/description of the buildings followed by our observations, conclusions, and any recommendations.

Clinton Hall

The building is located centrally within Wichita State University's main campus, situated between the Rhatigan Student Center and Ablah Library. It is a concrete structure made up of four floors including a basement, ground floor, and first and second floors. Each floor of the building is just over 13,000 square feet (SF) for a total area of approximately 53,000 SF. According to the existing drawings, the building was built in the late 1960's or early 1970's. The W. Frank Barton School of Business is currently located in Clinton Hall.

MECHANICAL SYSTEMS:

INFRASTRUCTURE:

Plumbing Infrastructure:
A 4" domestic cold water is fed to the building from an 8" main located west of the building. The 4" line is routed along the north side of the building and enters the basement just east of the centerline. A 6" fire line is routed to the building from the same 8" main and enters the building near the west stair tower. The domestic water piping is reported to be original to the building.

Sanitary sewer leaves the building to the north via a 6" service line to the manhole just north of the building. This utility system is reported to be original to the building.

Roof drainage is located on the south elevation of the building. Rainleaders discharge roof drainage to the south along the south elevation. This piping is reported to be original to the building.

Mechanical Infrastructure:
Clinton Hall has a four-pipe chilled water and hot water HVAC system. 5" chilled water supply (CWS) and chilled water return (CWR) piping is extended to the building via the tunnel under Neff hall immediately to the south and east. 4" heating water supply (HWS) and heating water return (HWR) piping is extended to the building from Ablah Library located to the east. The CWS/R and HWS/R piping serving Clinton Hall are reported to be original to the building.

PLUMBING SYSTEMS:

Restroom facilities within the building appear to have been updated since the original building was constructed. Water closets, urinals, and lavatories are wall hung with manual flush valves and manual faucets. The only specific plumbing problem brought to our attention was regarding the basement and water intrusion. It was reported that groundwater coming up through the floor was often a problem due to an underground flow and because the basement is relatively deep underground. The day of our walkthrough, the floor was dry. The existing piping systems and associated appurtenances were reported to be original to the building.

The electric water heater serving the building has been recently replaced and appeared to be in good condition. However, the University has indicated that they would like the water heater replaced.

MECHANICAL SYSTEMS:

The majority of the building is served by two 31,000 CFM air handling units (AHUs) with marks AHU-1 (west) and AHU-2 (east) located in the main basement mechanical room. Each air handler is setup to serve dual duct mixing boxes within the building. Campus chilled water piping is connected to the cooling coils associated with the cold deck of each AHU with Heating water from Ablah Library connected to the heating coil associated with the hot deck of each AHU. The return air path for the AHUs is located on top of the units with filter racks at the opening. Return is open to the mechanical room and allows return air, outdoor air, or a mixture of both from the mixing plenum behind the units to enter each AHU. Sound attenuators are installed in each of the four ducts (two cold ducts and two hot ducts) going up through the building. A return air (RA) fan with mark Return Air Fan #1 (RAF-1) associated with AHU-1 and AHU-2 is located in the basement at the base of the shaft conveying the supply ducts up through the building. This shaft acts as the return air path also. RAF-1 conveys return air from the building and pushes it to a chamber with RA dampers and relief dampers. The RA damper opens to the mixing plenum behind AHU-1 and AHU-2 where the outdoor air dampers are also located. The relief damper opens to an areaway on the south side of the building where the air is relieved to the outdoors. This areaway has a wall separating the relief path from the outdoor air (OA) path. This setup allows for economizer operation when outdoor conditions are appropriate. All of this equipment is original to the building, though pneumatic actuators have been replaced with DDC controls. WSU staff indicated that the air handlers have performed well over their life with only typical maintenance required.

One additional AHU (AHU-3) is located in a separate, smaller mechanical room on the north side of the basement. This unit appears to be a 3,500 CFM constant volume AHU, serving an area that originally housed animals. The original drawings showed an energy recovery unit and associated exhaust fan EF-1 located in the mechanical room with AHU-3, but it was not observed to be installed during our walkthrough. Electric heating coils out in the branch ducts to serve individual spaces or areas provide zone control. It does not appear that economizer is available for AHU-3. All of this equipment is original to the building, though pneumatic actuators have been replaced with DDC controls.

Restroom exhaust is accomplished with a roof mounted exhaust fan EF-2. This unit exhausts air from the chase between the main restroom banks. EF-2 is understood to be original to the building.

Originally, the building had a wood shop located in the basement. Exhaust fan EF-3 on the roof exhausted this space. It is unclear as to whether or not this EF is still in service.

The majority of the spaces throughout the building are served by mixing box (MB) units with connections to a hot duct and a cold duct. A mixing damper in the MB unit modulates between the cold duct and hot duct as required to maintain space temperature setpoint. Return air is conveyed via the ceiling plenum back to an opening into the RA shaft located on the south side of the building near the center line. Existing drawings indicate that the openings into the shaft are protected with a fire damper. The distribution ductwork, MB units, and RA path are all reportedly original to the building. The RA path may have life safety implications if the building is remodeled. Unsprinklered buildings will require openings be protected with combination Fire/Smoke dampers.

RECOMMENDATIONS AND COSTS:

Plumbing:
Due to the age of the piping and equipment in the building, it is recommended that as much of the accessible piping be replaced and reinsulated. Sump pumps and associated controls and levels should also be replaced. If it is determined that the restrooms are to be remodeled, or if fixtures are not currently ADA compliant, then the fixtures should be replaced. Based on the request of the University, the water heater should also be replaced. It is recommended that waste lines below the floor be camera'd to determine the piping condition.

- Estimated associated cost: $11/SF for replacement of the systems within the building. If only fixtures are replaced, estimate $4,000 per fixture.

Mechanical:
Due to the age of the piping, ductwork, and equipment, it is recommended that as much of the accessible items be replaced in a major renovation.

- Estimated associated cost: $39/SF for replacement of the systems within the building.

The scope of the replacement can be scaled up or down depending on the available budget for the project.

ELECTRICAL SYSTEMS

POWER DISTRIBUTION INFRASTRUCTURE:

This building is served by a single pad mounted utility transformer (Evergy #TS022693) located just north of the building at the dock area adjacent to Neff Hall. This transformer is fed from a below grade primary utility line routed through campus. Adjacent to the pad mounted transformer are two stand mounted NEMA-3R disconnect switches. It appears that the south disconnect switch currently serves Clinton Hall, it was undetermined from visual observation what the remaining disconnect served. The switches were both in poor condition, showing signs of surface rust on the disconnect housings themselves; it is unknown if the rust has progressed to any of the internal components of the switch. Due to some stickers that were placed on the south disconnect, size/voltage/etc. of the switch was unable to be determined. The secondary feed from the disconnect switch is routed in a westerly direction below grade to the distribution gear located in the main mechanical/electrical room in the eastern portion of the basement. The main distribution panel “MDP” is located on the north wall (shared with the entrance into the room). This panel is General Electric and is an 800-Amp, 480Y/277-Volt, 3-Phase, 4-Wire fused switch unit that serves various loads. This panel is understood to distribute power throughout the rest of the building. The fused switches within this switchboard are as follows: (3) 100-Amp, 3-Pole switches which serve panels 2L, 4L, and an elevator; (2) 60-Amp, 3-Pole switches which serve panel EM1 and then an unknown load; what appears to be a (3) 200-Amp, 3-Pole switches which serve panels 1L, 3L, and then what is labeled as a transformer station (which is assumed to be the (3) 37.5KVA 1-phase transformers located on the adjacent wall). These transformers in turn serve the 2-section 208Y/120-Volt, 3-Phase, 4-Wire distribution panel “DP” adjacent to the main distribution panel. It is assumed that this panel is 400-Amp as the nameplate is not intelligible (this is based on the transformer sizes ahead of it). This equipment therein serves low voltage transformers, and corresponding 208Y/120-Volt, 3-Phase, 4-Wire panelboards that distribute power throughout the building as well as a motor control center located below the wall mounted transformers in the room.

The majority of the distribution gear appears to be beyond the industry accepted “rated useful life” age of 20 years (there are pieces of equipment that are 5-10 years of age located in various spaces, including this particular room). There is a varying assortment of manufacturers within the building, among them are: General Electric, Siemens, and Cooper/Bussman (which is a newer coordination panel for life safety equipment and loads). Based on general observation and confirmation from Staff, there is no known Federal Pacific equipment within this building.

In addition to the “normal” power distribution described above, this building also has an emergency standby generator located just west and across the walk path from the pad mounted transformer. It is a Cummins/Onan diesel unit that appears to serve one automatic transfer switch within the building. The transfer switch (Cummins/Onan) is located on the north wall in the same room as MDP and DP described above. The size of the generator is unconfirmed, as the unit was locked and inaccessible at the time of the site observation. It is understood that the unit is a 480Y/277-Volt, 3-Phase unit that serves life safety loads in the building.

All equipment observed appeared to have proper NEC required working clearances and the majority were properly labeled.

GENERAL ELECTRICAL DISTRIBUTION:

Receptacles observed appeared to be in good condition and they all appeared to be of the grounded type. The devices observed that were located within 6-feet of a sink or at exterior locations did appear to be GFCI protected, as prescribed by NEC Article 210. Additionally, devices located exterior of the building or in wet locations appeared to be provided with a weatherproof “in-use” cover. Also pursuant to Code, a convenience receptacle appeared to be located at locations within 25 feet of any mechanical equipment.

INTERIOR BUILDING LIGHTING:

The majority of the existing interior lighting appears to be T8 fluorescent technology and are of a “standard” 3500K color temperature. Similar to the process in other buildings on campus, Physical Plant has been retrofitting LED fixtures as the situations arise.

In most instances, the classrooms and other spaces each had a single zone of lighting and were controlled via a wall mounted toggle switch.

General interior lighting consists of recessed mounted fixtures since the majority of the building is lay-in ceiling. Stairwells exhibited pendant mounted linear fluorescent fixtures. Utility spaces utilized fluorescent strip fixtures.

Code required emergency egress lighting is provided via generator powered fixtures.

EXTERIOR BUILDING MOUNTED LIGHTING:

Building mounted lighting appear to all be fluorescent and/or HID sourced, and all fixtures are controlled via a building photocell.

FIRE ALARM:

A fire alarm system is existing and appears to be a zoned Simplex. The main fire alarm panel is located at the north end of the main lobby space. Per visual inspection and discussion with staff, the system operates normally.

All pull stations observed appeared to be at ADA heights.

TELEPHONE / DATA SYSTEMS:

The telecommunications system appears to be in good working order based on discussion with staff. Cabling is currently Cat.5E and appears to be in lengths as recommended by industry recognized standards.

The main fiber communications service appears to originate a room at the east end of the basement on the north side of the corridor. There are various locations of telecommunications racks throughout the building which helps the facility maintain distances recommended by EIA/TIA.

CCTV / SECURITY / ACCESS CONTROLS / INTERCOM / BELL / CLOCK:

There appeared to be no evidence of CCTV, security, intercom, bell, or access control systems installed within the buildings.

The building does have a clock system that appears original to the building. Based on evidence at other buildings on campus, it is assumed that this is a Simplex system, although it was not confirmed in this building. The original clocks are digital type. Per staff present, it is unknown where the clock controller resides.

RECOMMENDATIONS AND COSTS:

The following are a list of recommendations and associated costs for this facility:

- As stated above, the majority of the distribution gear is beyond its rated useful life; therefore, it is recommended that equipment meeting or nearing these criteria be replaced. It will become increasingly difficult (in terms of both availability and costs) to obtain replacement parts and pieces for the existing equipment as the building continues to operate.
    - Estimated associated cost: $5,000/panel (assumed with costs to extend and reconnect existing conduits and conductors).
- Lighting is of an outdated, albeit still functioning and accessible, fluorescent lighting source. It is recommended that with renovations, LED lighting be utilized to assist in the reduction of energy usage.
    - Estimated associated cost: $3/SF.
- Occupancy sensors or simple, scheduled controls can be installed to again, aid in the reduction of energy usage.
    - Estimated associated cost: $0.50/SF.
- It is recommended that the fire alarm system be updated to, at minimum, an addressable type.
    - Estimated associated cost: $1.75/SF.
- Access control could be looked at to allow for a bit of flexibility and limit the use of barrel/keyed locks.
    - Estimated associated cost: $4,000/each door.

ENGINEERING LASTING RELATIONSHIPS

Wichita State University – Clinton Hall

1845 Fairmount
Wichita, KS

Structural Assessment Report

Prepared For:
Clark|Huesmann
Lawrence, KS

PEC Project No.:
200624-000

Prepared by:
Brice A. Schmits, P.E.

Date:
December 7, 2020

303 SOUTH TOPEKA WICHITA, KS 67202 316-262-2691 www.pec1.com

PURPOSE:

Professional Engineering Consultants, P.A. (PEC) was engaged by Clark|Huesmann to perform a structural assessment of Clinton Hall located on the main campus of Wichita State University in Wichita, Kansas. The purpose of this visual (non-destructive) observation was to determine the current state of the building infrastructure and provide information for a better understanding of what needs there might be for any future renovations.

The structural scope of services includes observations of the existing conditions, production of a written report documenting the observations and to provide and assessment based upon the observations. Structural analysis and environmental assessment including, but not limited to, asbestos, lead based paint, mold and water intrusion is expressly excluded from the scope of work.

PEC discloses that our inspection consisted of a visual observation in addition to the use of available existing building plans and conversation regarding known building conditions and challenges with Physical Plant personnel. The inspection was made solely to determine the existing integrity based on the observed condition of the building. This report makes no attempt to verify or quantify that the observed building conforms to the applicable building codes now enforced or the building codes enforced at the time of construction. The conclusions, herein, are professional opinions based upon certain assumptions made regarding the condition of the building that could not be observed without destroying otherwise adequate or serviceable portions of the building. The following is a brief overview/description of the buildings followed by our observations, conclusions, and any recommendations.

OBSERVATIONS:

Clinton Hall is located centrally within Wichita State University's main campus, situated between the Rhatigan Student Center and Ablah Library. It is a concrete structure made up of four floors including a basement, ground floor, and first and second floors. Each floor of the building is just over 13,000 square feet (SF) for a total area of approximately 53,000 SF. According to the existing drawings, the building was constructed around 1969.

The observations were performed on December 03, 2020 by Brice A. Schmits, P.E., Kansas license number 23501. Mr. Schmits met with Mr. Paul Lytle to obtain access to the area. Existing structural drawings for the building were available for review. Relevant drawings are included in Appendix C of this assessment.

The following observations were made during the site visit:

Basement

The mechanical room, elevator equipment room, and sump and fire riser rooms at the east and west stairwells were observed. No water or dampness was noted to be present on the concrete floor or walls. The mechanical room is the lowest accessible level in the building and is approximately 25'-0" below the surrounding grade. Evidence of water intrusion sometime in the past was present at various locations in the mechanical room. Discoloration due to water stains were present on the walls and in some locations a darker band of 2" to 4" in height was visible at the wall base. Water was flowing into the existing sump pits on the east and west sides of the

building. The metal sump covers were significantly corroded. Per Mr. Lytle, the east side of the building is founded below the groundwater elevation, and this has caused some water infiltration issues in the past.

Ground Floor

Large classrooms are present on the east and west sides of the building on the ground floor. The classrooms have radial risers that step down from the floor elevation approximately 4'-0" to a central lower platform. The remainder of the floor area is devoted to offices and smaller classrooms with a central common area. Most of the structure is covered by finishes and not observable. The hallway flooring is terrazzo and in fairly good shape with some minor cracking present.

Second and Third Floors

The second and third floors appear to be mainly offices and common areas. Most of the structure is covered by finishes and not observable. The second-floor hallway is terrazzo and in fairly good shape with some minor cracking present. The third-floor hallway is vinyl tile, no noticeable cracking was present.

Exterior

The exterior consists of multiple segmented precast concrete panels. Full height brick is present at the stairwells on the east and west sides. Multiple exterior cast-in-place concrete planter boxes, ledges, and egress ramps and stairs are present around the building perimeter. The main entrance on the north side appears to have been replaced sometime recently. The south entrance appears to have settled 6"-8" downward from the main building. This is most visible at the sloping concrete at the top of the stairs and where the planter boxes abut the building. Settlement appears to be present in the exterior concrete paving at the southeast side of the building. An original concrete bench has settled approximately 6" downward toward the building and a dark line is visible showing the elevation of where the paving was when previously poured. The roof was not accessible at the time of the site visit.

Proposed Renovations

An Architectural program for Clinton Hall was provided by Clark|Huesmann dated 2020-11-17. Potential renovations that could have structural impacts are the following:

- Floor live load update to current Building Code
- New floor opening (near south central entrance)
- West classroom radial riser infill
- New south entrance and 1 story addition at southeast side of building

The above renovation items will be addressed in the Recommendation section of this assessment. Proposed floor plans and illustrations from the Architectural Program are provided in Appendix B of this assessment.

CONCLUSIONS

The building is in serviceable condition. Water intrusion was not visibly present but could be possible during extreme precipitation events or due to drain blockage and flooding of any of the lower egress concrete areas around the building perimeter. No indications of settlement of the main building structure were observed. The south entrance steps and concrete have settled downward from the main building, and do not appear to be structurally connected to the main building. The exterior paving at the southeast side of the building may be settling due to issues with the subgrade in this location.

RECOMMENDATIONS:

Due to the depth below grade of the building, multiple recessed egress areas around the perimeter, and age of the underground drain tile/sumps/trench drains, water intrusion is a concern. We recommend evaluating the condition of these items and periodically inspecting and performing maintenance as needed.

The south entrance currently has settled and the concrete landings immediately outside the building are sloping downward. We recommend stabilizing the south entrance concrete and replacing/repairing as needed to meet egress requirements or replacing the entrance concrete similar to the recently replaced north entrance.

The proposed renovation items noted in the observation section of this assessment may also affect the following structural items of the building:

Floor Live Load

Per the existing drawings dated 3/15/1968 the design floor live load for the classrooms and offices is 50 psf and the stairs and public areas is 100 psf. Per the IBC 2018 offices are 50 psf but are required to have an additional 15 psf applied for moveable partitions. The movable partition requirement can be ignored if the live load is 80 psf or greater. Stair and corridor live loads have remained 100 psf. If the new renovation office use areas are required to meet the additional partition live load per the International Existing Building Code, reinforcement of the existing floor may be required.

New Floor Opening (near south central entrance)

New ‘wedge’ shaped floor openings are shown at the ground and first floors. The floor framing typically spans north/south across the building. An existing expansion joint runs between building columns at the proposed floor opening locations.

At the ground floor, the floor removal will likely require additional support for the remaining concrete on the north side. Lateral earth pressure from the exterior soil will also need to be evaluated for the remining structure at the opening location.

At the first floor, the proposed opening increases in size to the east across the existing expansion joint. An analysis would need to be performed to determine what affects this has on the remaining concrete wall on the south side. The concrete wall is potentially part of the lateral system of the building. At the southeast side of the opening, the remaining floor to the east is unsupported and will need to be resolved back into the structure (whether via a new column or leaving the existing concrete support beam across the opening).

West Classroom Radial Riser Infill (First Floor)

To infill the depression at the west classroom risers, it is assumed a light infill material such as geofoam will be used and topped with 4”-6” of concrete. The additional weight of the infill and concrete topping may cause the existing floor structure to be reinforced.

New south entrance and 1 story addition at southeast side of building

Foundations are a potential concern for the proposed addition. Due the existing settlement and water issues appearing to be primarily located in this area the soils may not be conducive to shallow foundations. Additional lateral pressure to the existing building due to the addition is also concern that will need addressed during design. A geotechnical engineer should be engaged to perform a subsurface analysis with sealed report and recommendations regarding foundation type.

DISCLAIMER:

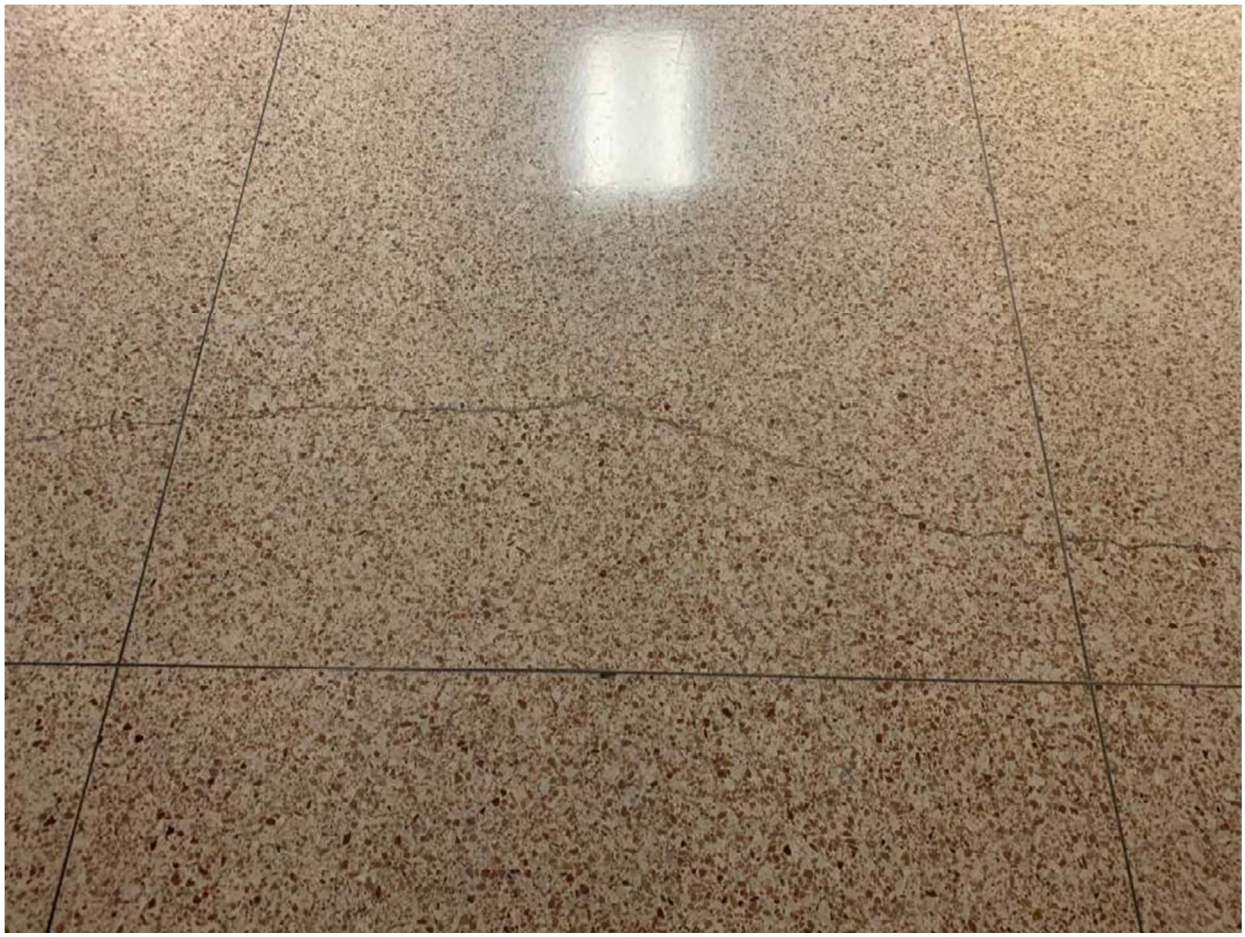
This assessment was based on the conditions readily observable at the time of the assessment and any related inspection. Subsequent deterioration of the property may have occurred since the time of any such inspection. There may be unforeseen or hidden damage that was not observed at the time of the observation due to several possible reasons. No subsurface or other intrusive investigation was made.

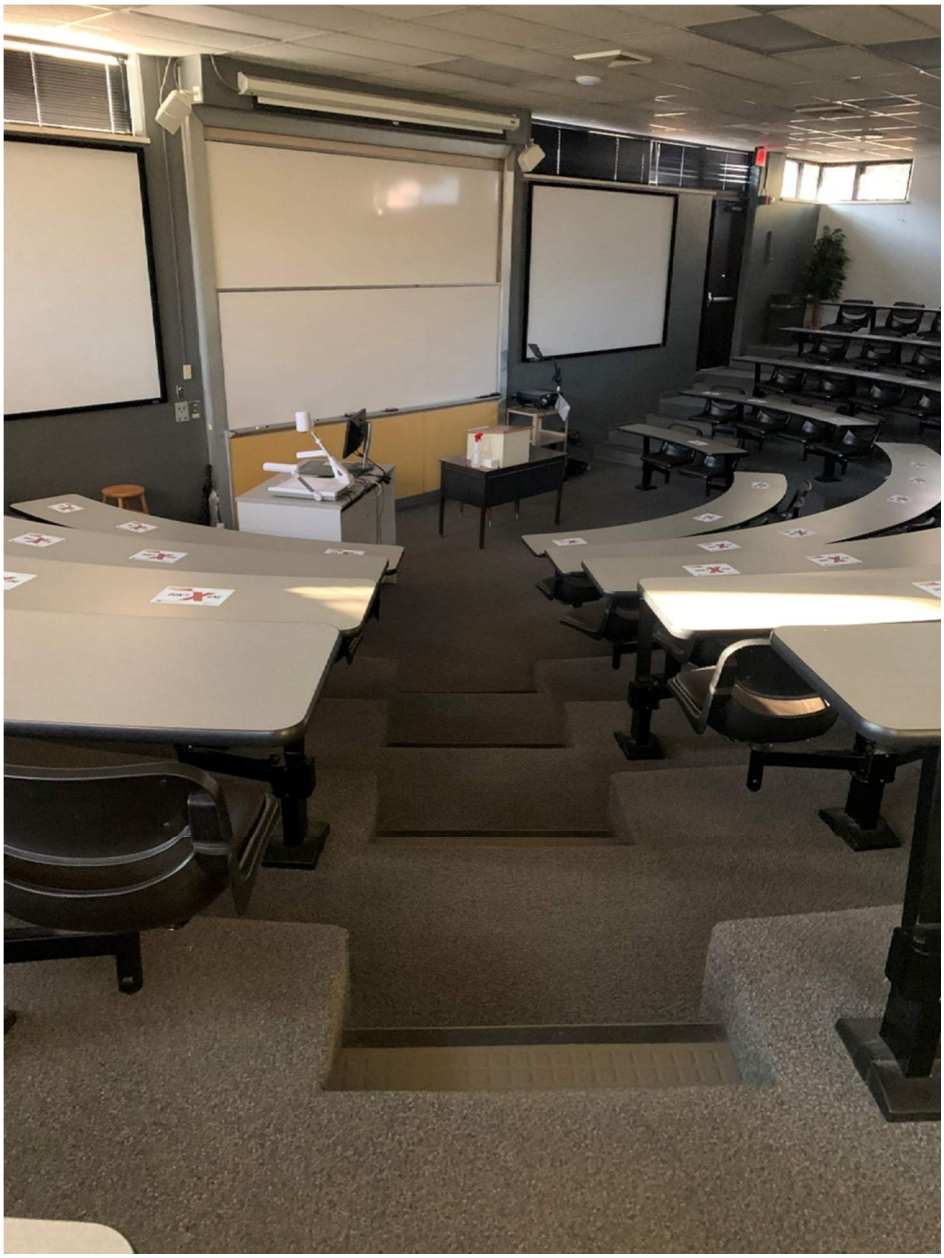
No survey was performed to determine any dimensions or boundaries.

PEC does not have any beneficial interest in the subject property. This report is a qualitative assessment of the property. Construction and/or renovation of the property based on the conclusions or recommendations should not begin until a full set of construction documents are prepared by a licensed professional. The report is written solely for the use of the client listed above and no other party shall have the right to rely on the information contained in the report. This report is not transferable to a third party without written permission of PEC. Reproductions of this report, not bearing the original engineer’s signature, are invalid. This Assessment was limited to the items specifically included in the scope of work. Nothing in this report shall be deemed to imply or suggest anything beyond what is specifically stated.

APPENDIX A: Photos

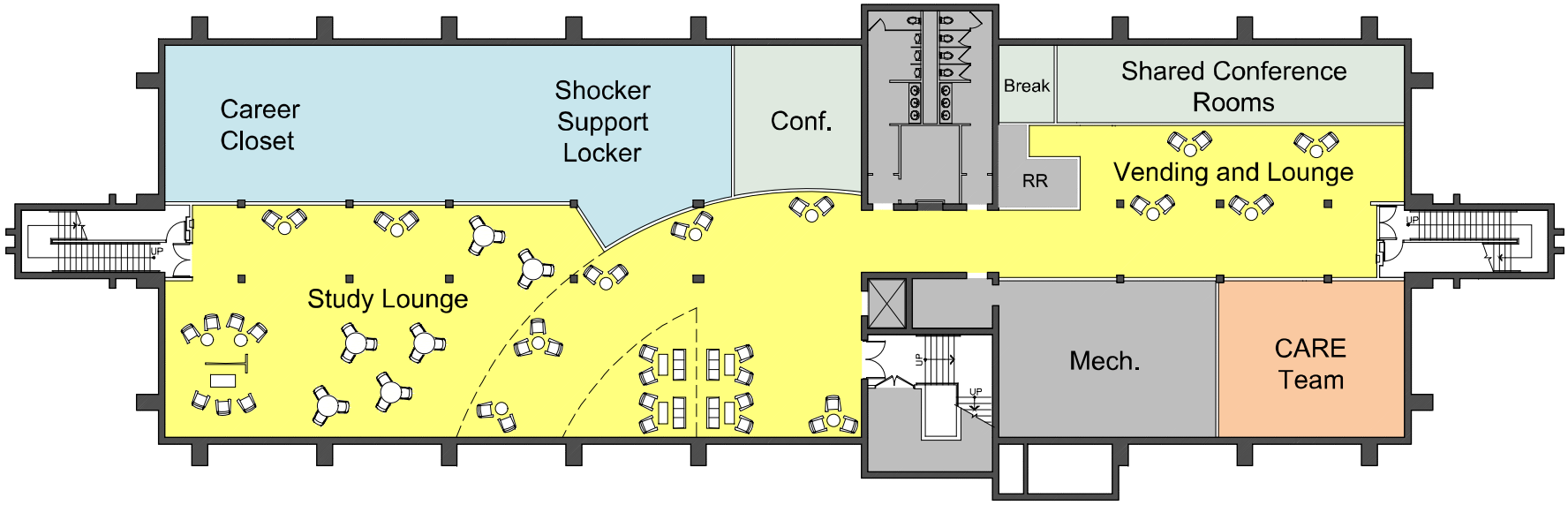

ANK BARTON
OF BUSINESS
INTON HALL



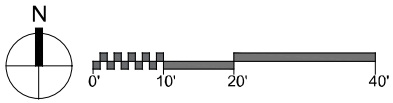


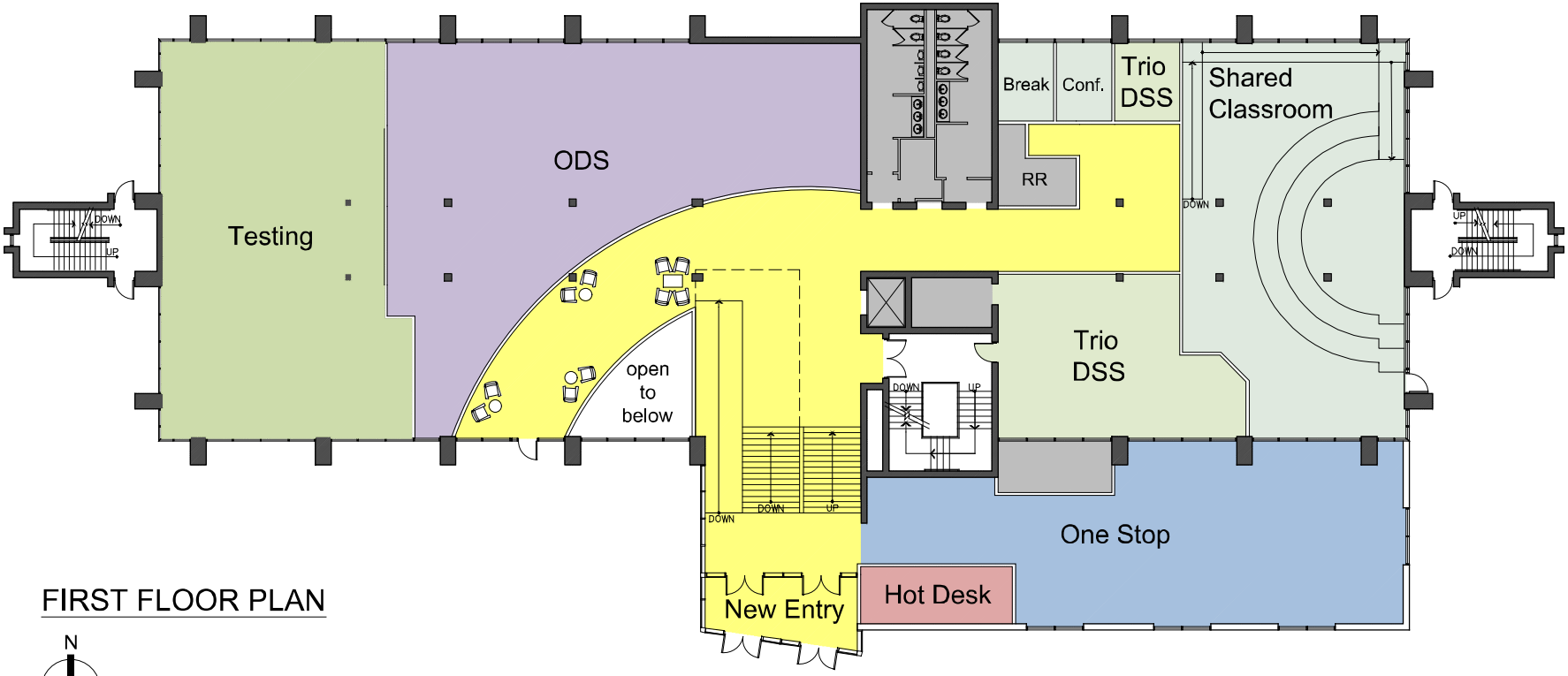
APPENDIX B: Architectural Plans and Elevations

Floor Plans

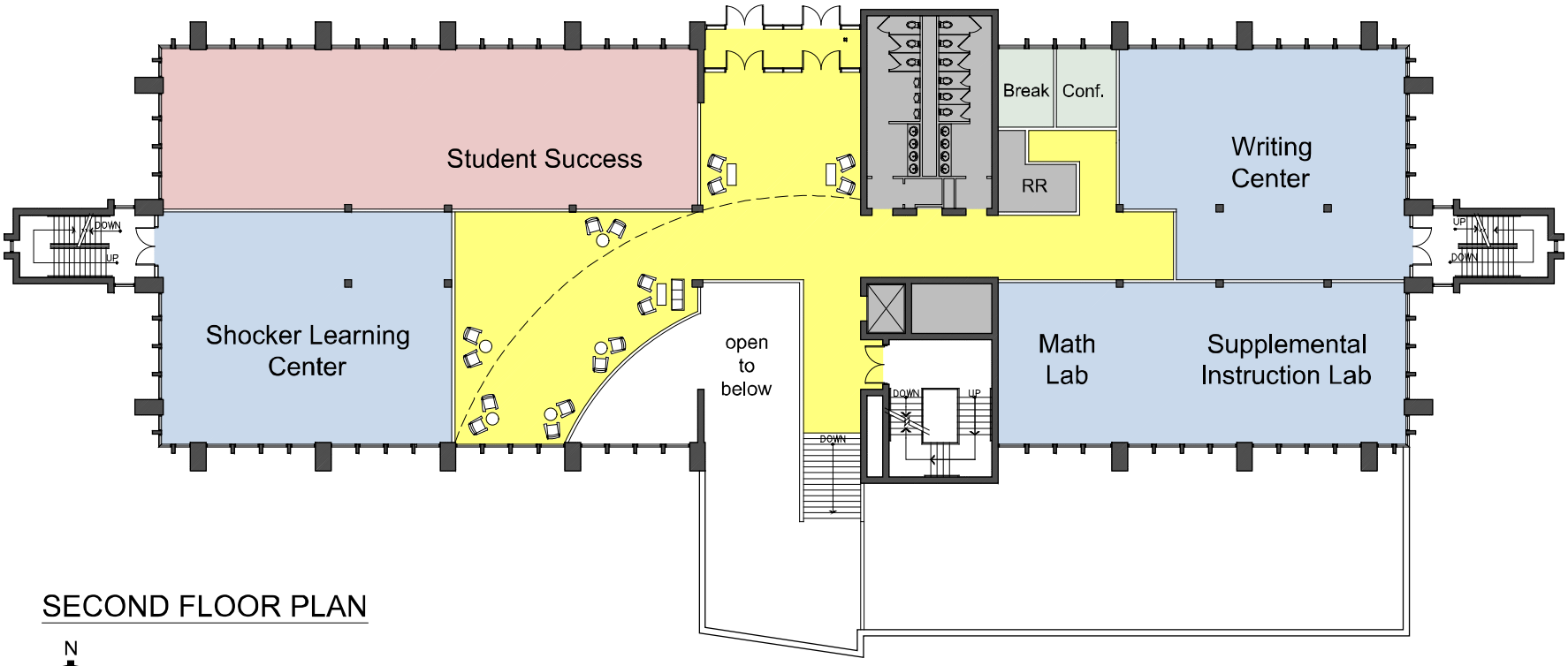


BASEMENT FLOOR PLAN

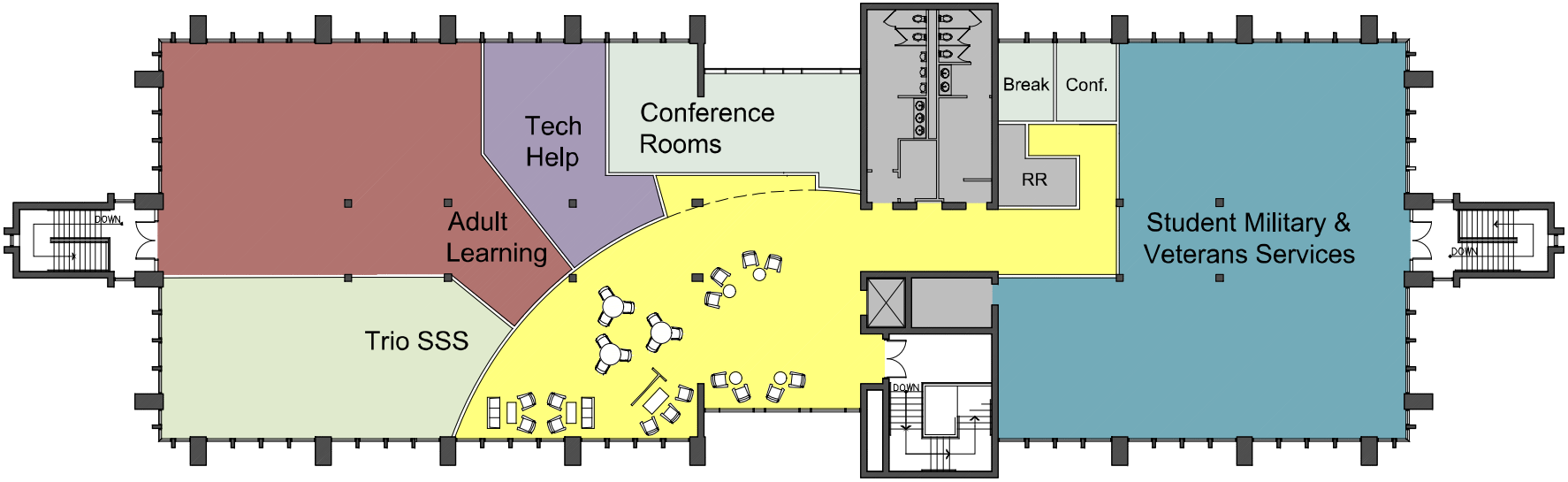




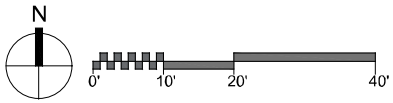
FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN



Illustrations

View from Southwest

View of Entry

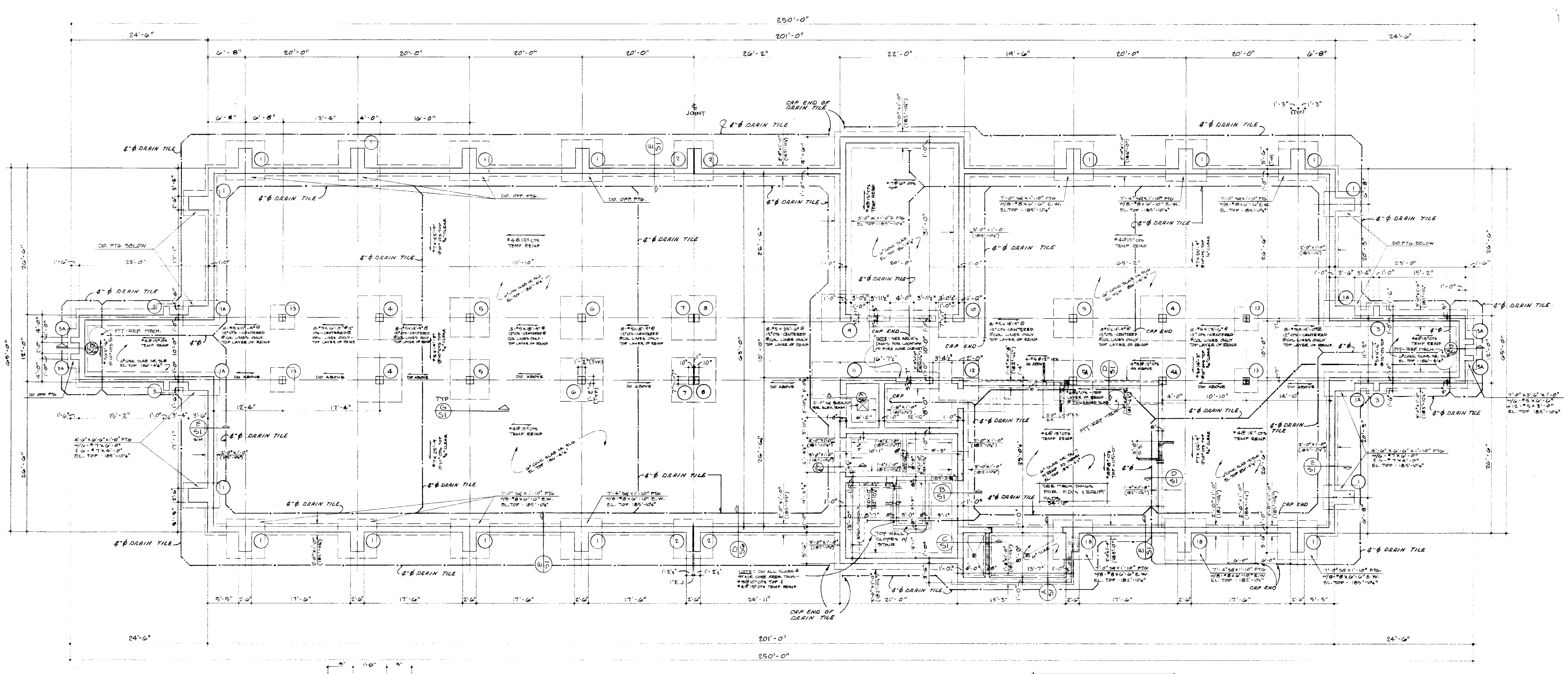
Night View from Southwest

Night View from Southeast

Section at Entry looking West

Section at Entry looking East

APPENDIX C: Relevant Existing Drawings



FOUNDATION PLAN

SCALE : ⅛" = 1'-0"

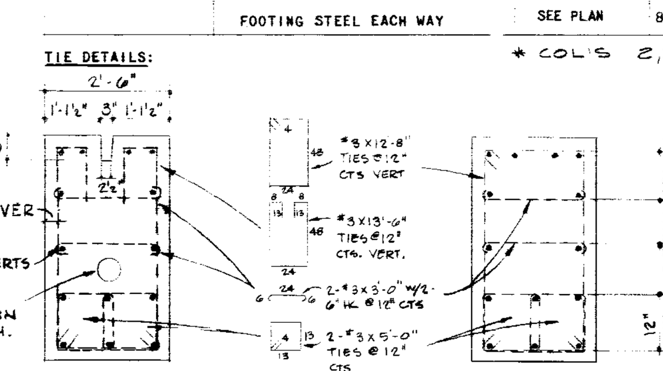
NORTH

SEE SHEET S2 FOR GENERAL NOTES

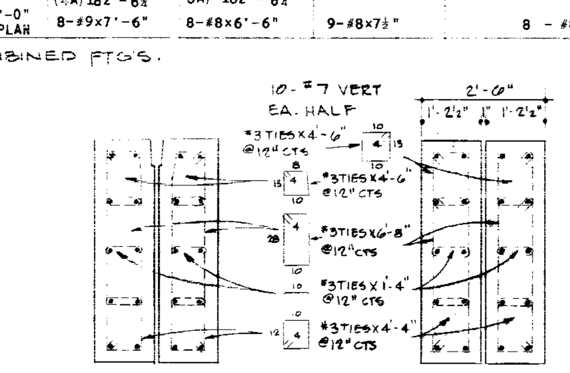
	COL. MK	1, 1A, 1B	2*	3 / 3A*	4 / 4A	5 / 5A	6	7*	8*	9	10	11	12	13
ROOF	NUMBER REQ'D.	16 / 4 / 2	4	4 / 4	3 / 1	3 / 1	2	2	2	1	1	1	1	4
EL. 241'-6"	COLUMN TIES	#3 @ 12" CC SEE DETAIL	#3 @ 12" CC SEE DETAIL	2-#3x3'-10" @ 12" CC	#3x4'-4"@14"CC	#3x4'-4"@14"CC	#3x4'-4"@14"CC	#3x3'-8"@10"CC	#3x3'-8"@10"CC	#3x4'-4"@14"CC	#3x4'-4"@14"CC	2-#3x4'8"@12"CC	2#3x4'-8"@12"CC	
	DETAIL	1	2	3	4	4	4	7	7	5	5	6	6	
	COLUMN VERTICALS	14 - #7 SEE BAR DTL.	10 - #7 SEE BAR DTL.	6-#7x13'-9"	4-#7x13'-9"	4-#7x13'-9"	4-#7x13'-9"	4-#6x13'-9"	4-#6x13'-9"	4-#7x13'-9"	4-#7x13'-9"	8-#6x13'-9"	8-#6x13'-9"	
2nd FLOOR	COLUMN SIZE	2'-6"x4'-6"	1'-2½"x4'-6"	1'-0"x2'-6"	14" x 14"	14" x 14"	14" x 14"	14" x 10"	14" x 10"	14" x 24"	14" x 24"	SEE PLAN	SEE PLAN	
EL. 227'-6"	COLUMN TIES	#3 @ 12" CC SEE DETAIL	#3 @ 12" CC SEE DETAIL	2-#3x3'-10" @ 12" CC	#3x4'-4"@14"CC	#3x4'-4"@14"CC	#3x4'-4"@14"CC	#3x3'-8"@10"CTS	#3x3'-8"@10"CTS	#3x4'-4"@14"CC	#3x4'-4"@14"CC	2-#3x4'8"@12"CC	2-#3x4'8"@12"CC	
	DETAIL	1	2	3	4	4	4	7	7	5	5	6	6	
	COLUMN VERTICALS	14-#7x14'-0"	10-#7x14'-0"	6-#7x14'-0"	4-#7x14'-0"	4-#7x14'-0"	4-#7x14'-0"	4-#6x13'-9"	4-#6x13'-9"	4-#7x14'-0"	4-#7x14'-0"	8-#6x13'-9"	8-#6x13'-9"	
1st FLOOR	COLUMN SIZE	2'-6"x4'-6"	1'-2½"x4'-6"	1'-0"x2'-6"	14" x 14"	14" x 14"	14" x 14"	14" x 10"	14" x 10"	14" x 24"	14" x 24"	SEE PLAN	SEE PLAN	
EL. 215'-0"	COLUMN TIES	#3 @ 12"CC SEE DETAIL	#3 @ 12" CC SEE DETAIL	2-#3x3'-10" @ 12" CC	#3x4'-4"@14"CC #3x3'-3"	#3x4'4"@14"CC	#3x4'-4"@14"CC #3 x3'-3"	#3x3'8"@10"CTS	#3x3'8"@10"CTS	#3x4'4"@14"CC #3x3'-3"	#3x4'4"@14"CC	2-#3x4'8"@12"CC	2-#3x4'8"@12"CC	
	DETAIL	1	2	3	4	4	4	7	7	5	5	6	6	
	COLUMN VERTICALS	14-#7x14'-0"	10-#7x14'-0"	6-#7x14'-0"	8-#8x14'-3"	4-#7x14'-0"	8-#7x14'-0"	4-#6x13'-9"	4-#6x13'-9"	8-#8x14'-3"	4-#7x14'-0"	8-#8x14'-3"	8-#6x13'-9"	
GRND. FLOOR	COLUMN SIZE	2'-6"x4'-6"	1'-2½"x4'-6"	1'-0"x2'-6"	14" x 14"	14" x 14"	14" x 14"	14" x 10"	14" x 10"	14" x 24"	14" x 24"	SEE PLAN	SEE PLAN	
EL. 202'-6"	COLUMN TIES	#3 @ 12" CC SEE DETAIL	#3 @ 12" CC SEE DETAIL	2-#3x3'-10" @ 12" CC	#3x4'-4" @ 14"CC #3x3'3"	#3x4'-4" @ 14"CC #3x3'-3"	#3 x 4'-4" @ 14"CC #3x3'-3"	#3x3'-8"@10"CTS	#3x3'8"@10"CTS	#3x4'-4" @ 14"CC #3x3'-3"	#3x4'-4" @ 14"CC #3x3'-3"	2-#3x4'8"@12"CC	2-#3x4'8"@12"CC	#3x4'4"@14"CC
	DETAIL	1	2	3	4	4	4	7	7	5	5	6	6	4
	COLUMN VERTICALS	(1, 1A) 14#7x18'-2" (1B) 14#7x21'-2"	10-#7x18'-2"	6-#7x18'-2"	(4) 8#10x18'-10" (4A) 8#10x21'-10"	(5) 8#8x18'-4" (5A) 8#8x21'-4"	8 #9x18'-7"	4-#6x18'-0"	4-#7x18'-2"	8-#11x19'-3"	8-#7x18'-2"	8-#11x22'-7"	8-#7x21'-8"	4-#7x12'-6"
BSM'T.	COLUMN SIZE	2'-6"x4'-6"	1'-2½"x4'-6"	1'-0"x2'-6"	14" x 14"	14" x 14"	14" x 14"	14" x 10"	14" x 10"	14" x 24"	14" x 24"	SEE PLAN	SEE PLAN	14" x 14"
EL. 186'-4¼	FOOTING DOWELS L6"	14-#7x3'-9"	10-#7x3'-9"	6-#7x3'-9"	8-#10x4'-6"	8-#8x3'-9"	8-#9x4'-3"	4-#6x3'-4"	4-#7x3'-9"	8-#11x5'-0"	8-#7x3'-9"	8-#11x5'-0"	8-#7x4'-3"	4-#7x3'-0"
	FOOTING SIZE	SEE PLAN	7'-0"SQx1'-10"	(3) 3-6SQ.x1-0 (3A) SEE PLAN	8'0"SQx2'-2"	7'0"SQx1'-10"	7'8"SQx2'-0"	8'-0" SQ. x 1'-10"		8'-6"SQ.x2'-4"	7'0"SQ x 1'-10"	6'6"x11'0"x2'4"	7'0"SQ x 1'10"	4'4"SQ x 1'-2"
	EL. TOP FTG.	SEE PLAN	185'-10¼"	185'-10¼"	(4) 185'-10¼" (4A) 182'-6¼"	(5) 185'-10¼" (5A) 182'-6¼"	185'-10¼"	185'-10¼"		185'-10¼"	185'-10¼"	181'-10¼"	182'-6¼"	185'-10¼"
	FOOTING STEEL EACH WAY	SEE PLAN	8-#8x6'-6"	(3) 6-#5x3'-0" (3A) SEE PLAN	8-#9x7'-6"	8-#8x6'-6"	9-#8x7½"	8 - #8 x 7' - 6"		10-#8x8'-0"	8-#8x6'-6"	10-#8x6'-0" 10-#8x10'-6"	8-#8x6'-6"	5-#6x3'-10"

* COL'S 2,3A,7&8 HAVE COMBINED FTG'S.

TIE DETAILS:



DTL. COL. MK 1 (1/S1)
⅜" = 1'-0"



DTL. COL. MK 2 (2/S1)
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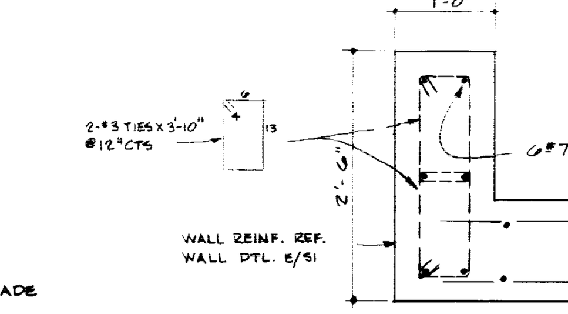
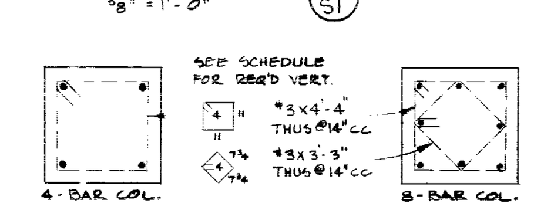
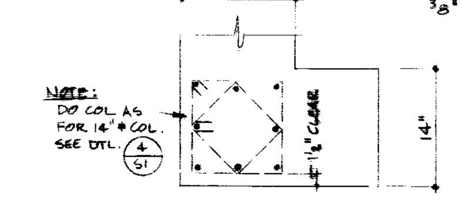


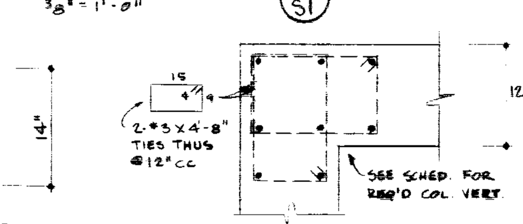
DTL. COL. MK 3 (3/S1)
¾" = 1'-0"



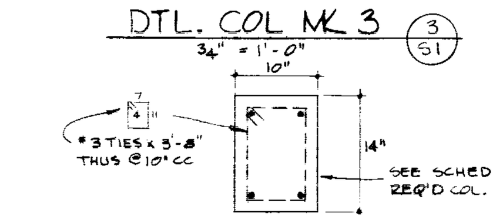
14"ϕ COL. (4/S1)
¾" = 1'-0"



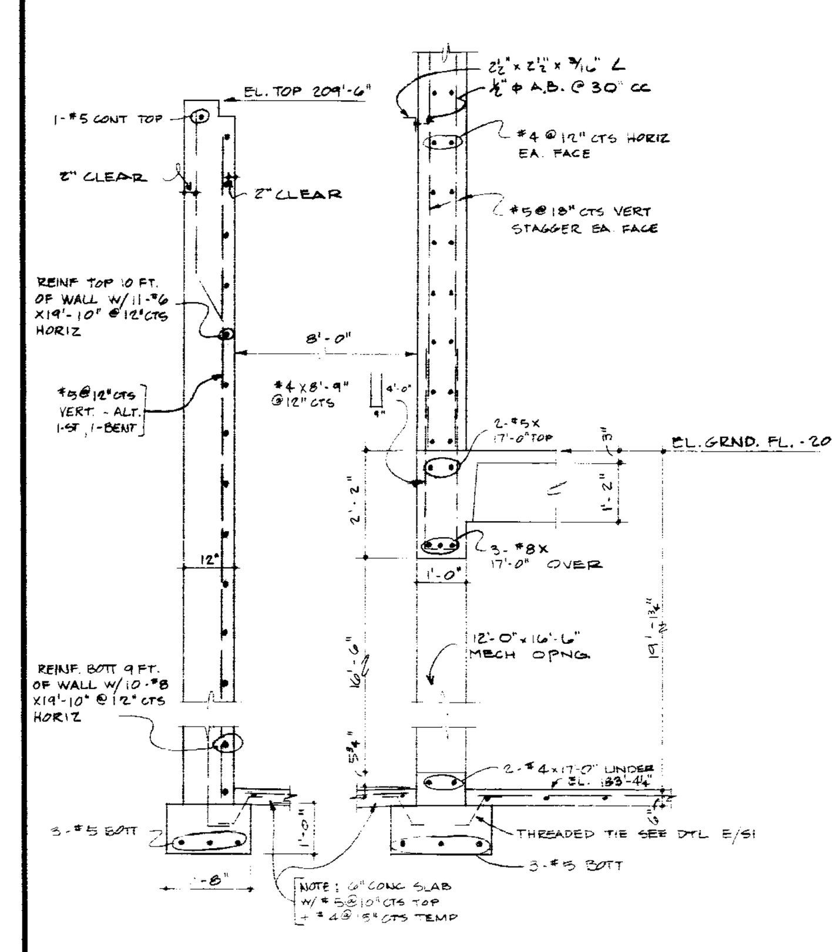
COL. MK 9 & 10 (5/S1)
¾" = 1'-0"



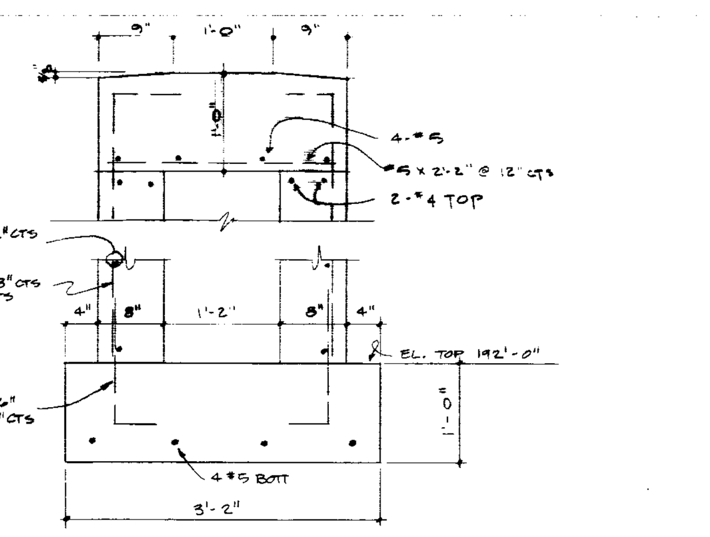
COL. MK 11 & 12 (6/S1)
¾" = 1'-0"



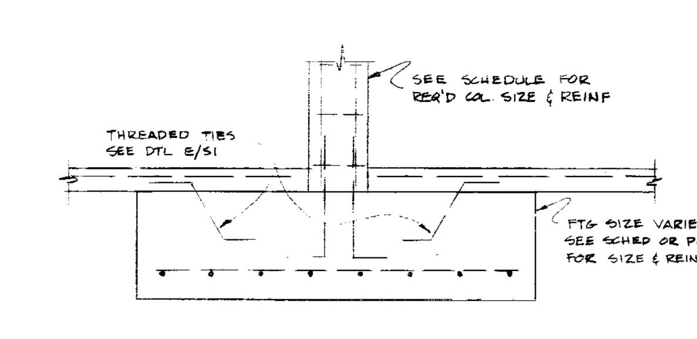
COL. MK 7 & 8 (7/S1)
¾" = 1'-0"



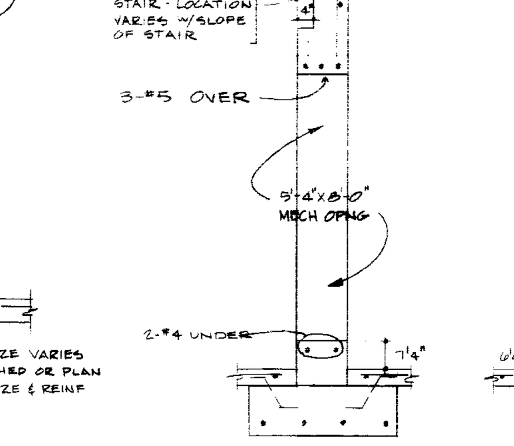
DTL. FRESH AIR - RELIEF OPNG. (A/S1)
SCALE : ⅜" = 1'-0"



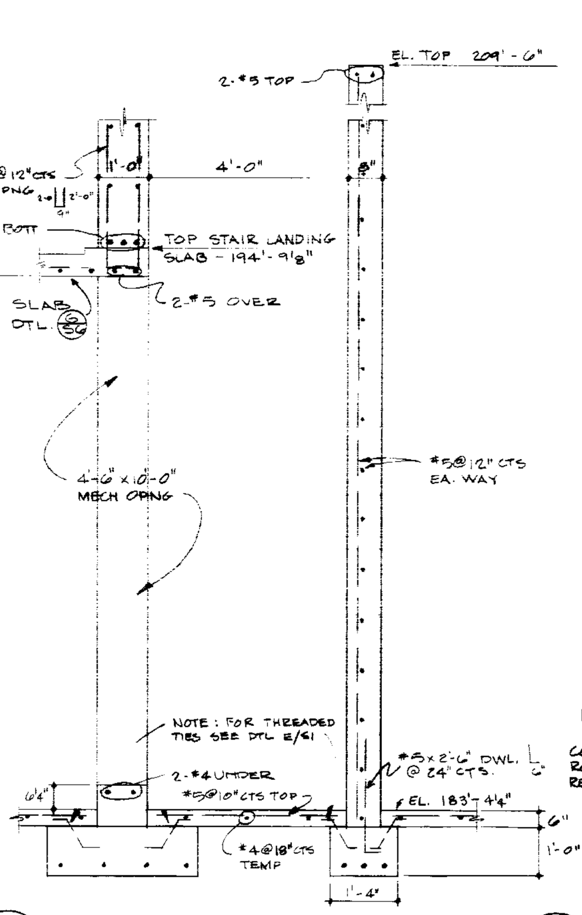
FTG. @ CANOPY MASONRY PILLAR (F/S1)
SCALE : ¾" = 1'-0"



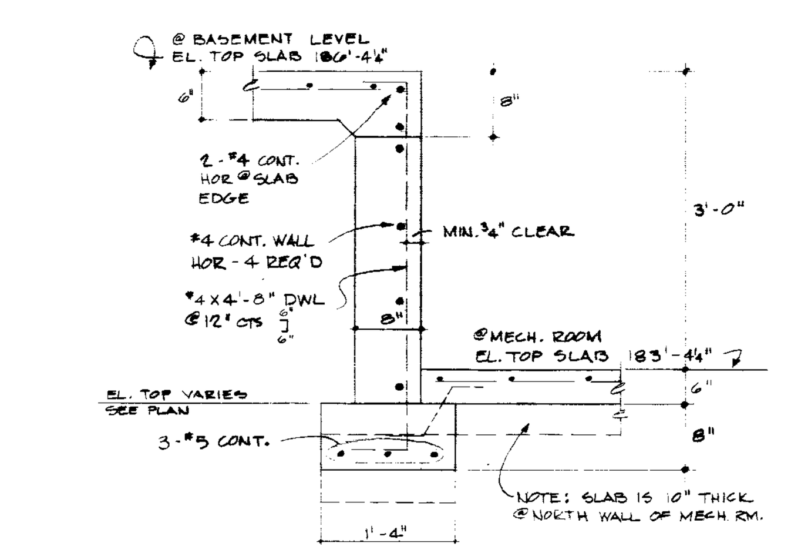
TYPICAL INT. COL. DTL (G/S1)
SCALE : ⅜" = 1'-0"



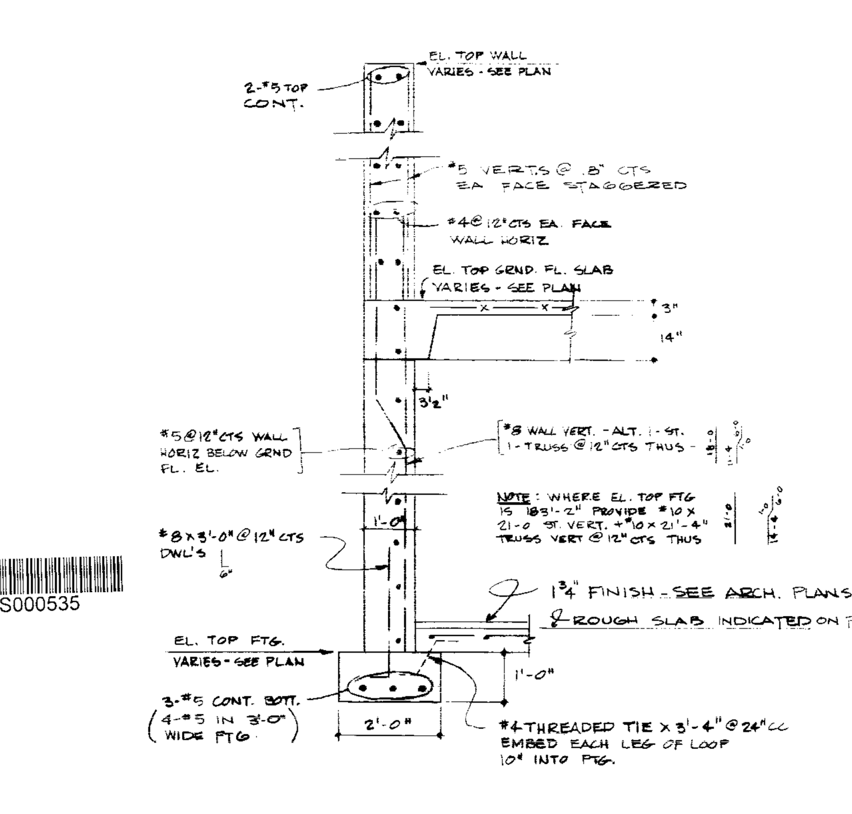
MECH. OPNG (B/S1)
⅜" = 1'-0"



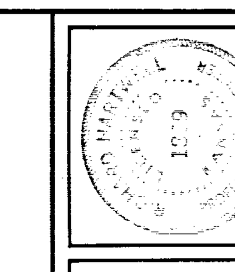
AIR - RELIEF OPNG. (C/S1)
⅜" = 1'-0"



SLAB DROP @ MECH ROOM (D/S1)
SCALE : ¾" = 1'-0"



TYP. EXTERIOR WALL DTL. (E/S1)
SCALE: ⅜" = 1'-0"



FEAGINS and KIRSCH
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AIA

STATE OF KANSAS
DEPARTMENT OF ADMINISTRATION
ARCHITECTURAL SERVICES DIVISION
WILLIAM R. HALE ~ STATE ARCHITECT
TOPEKA KANSAS
PROJECT NO 4-6-00304-0

THE ADDITION TO NEFF HALL
for WICHITA STATE UNIVERSITY
1845 FAIRMOUNT STREET
WICHITA, KANSAS

REVISED

DRAWN BY GOSSEN

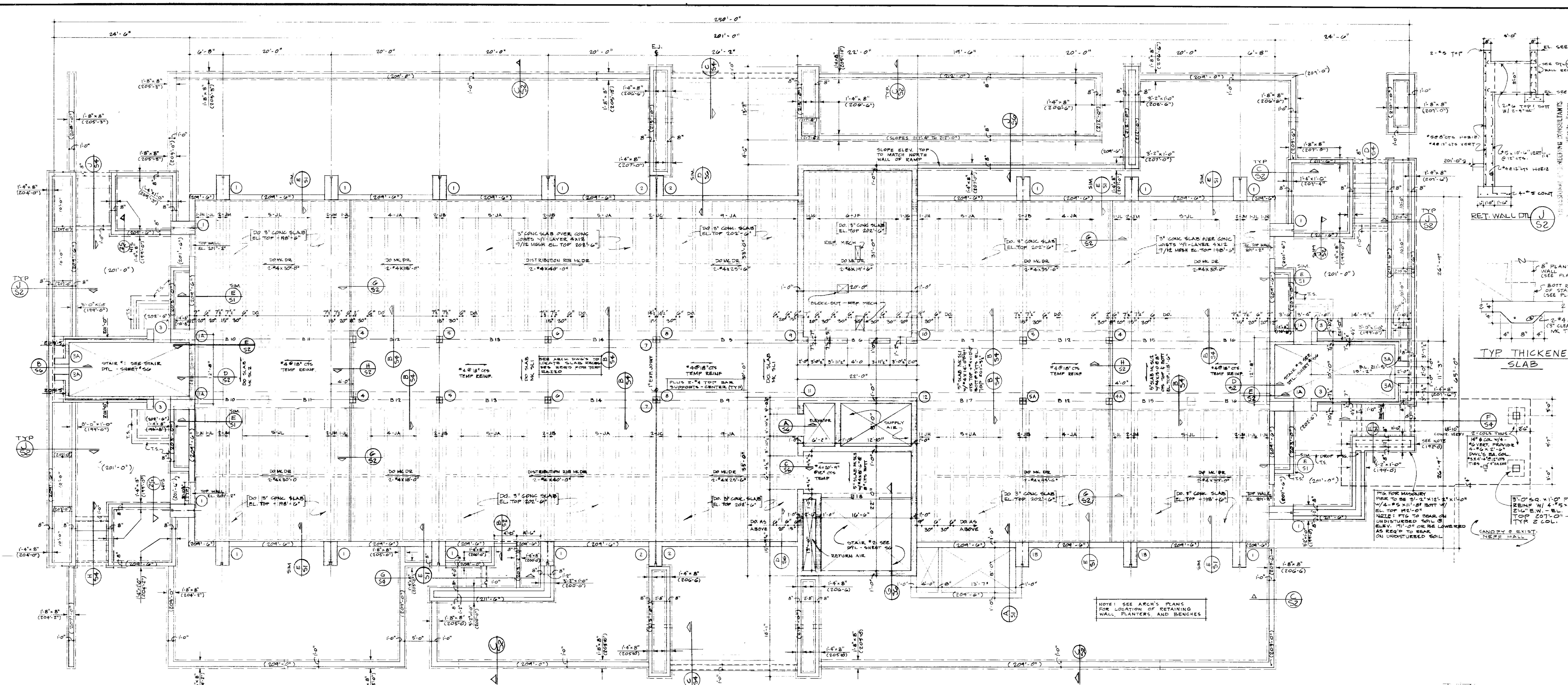
CHECKED BY HARTWELL

DATE MARCH 15, 1968

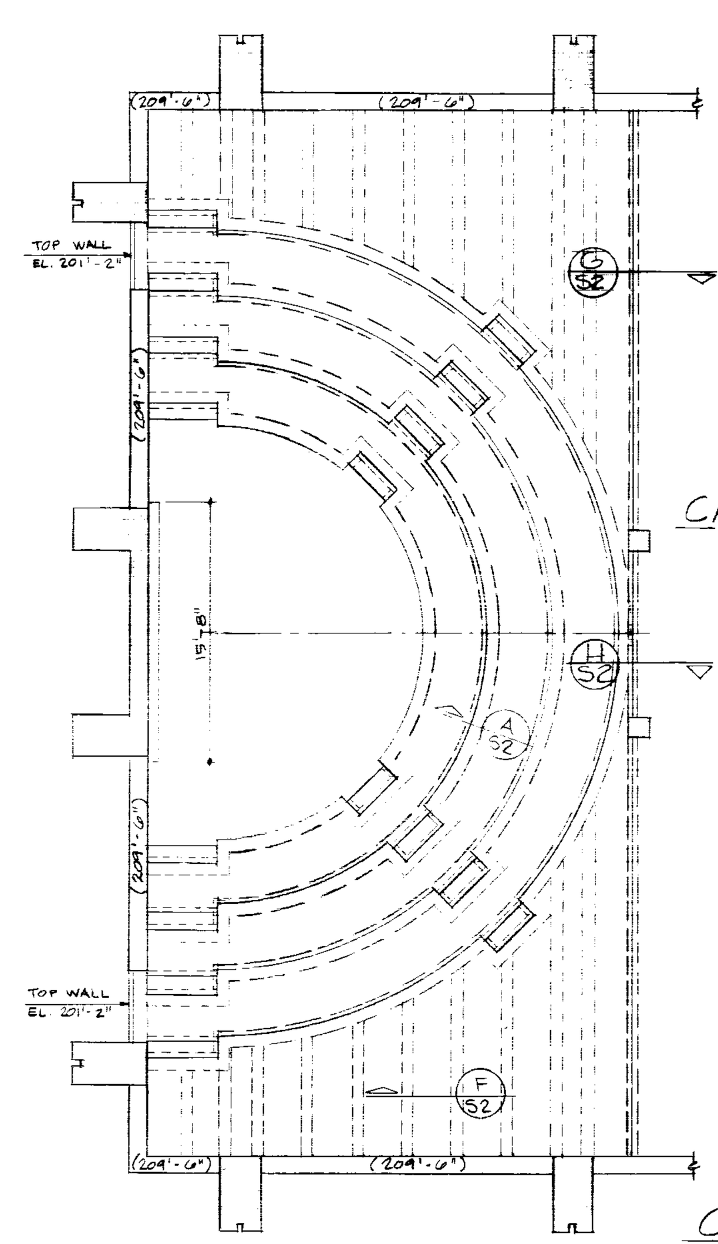
JOB NO. A-1290

SHEET NO. S-1 of 6

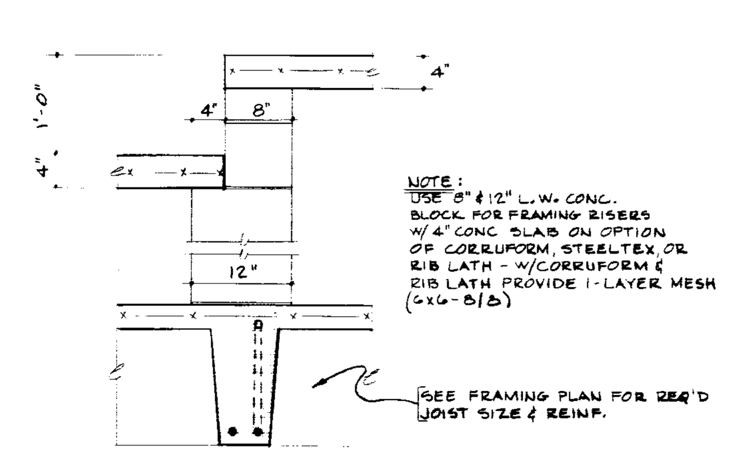
DD 4C



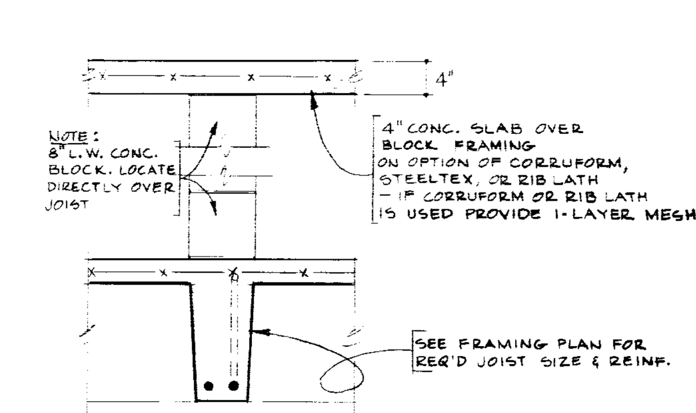
GROUND FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"



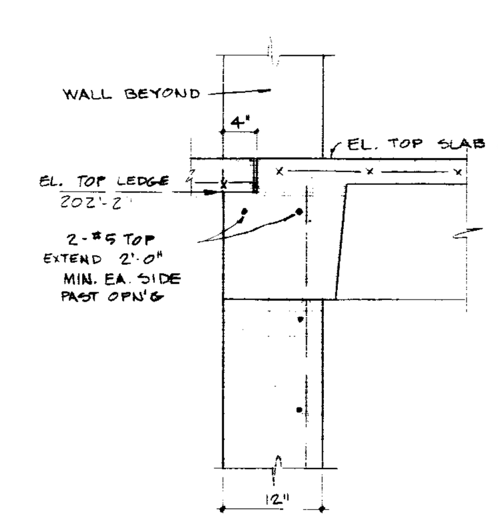
FLOOR FRAMING - CASE STUDY RM. (I/S2)
SCALE: 1/8" = 1'-0"



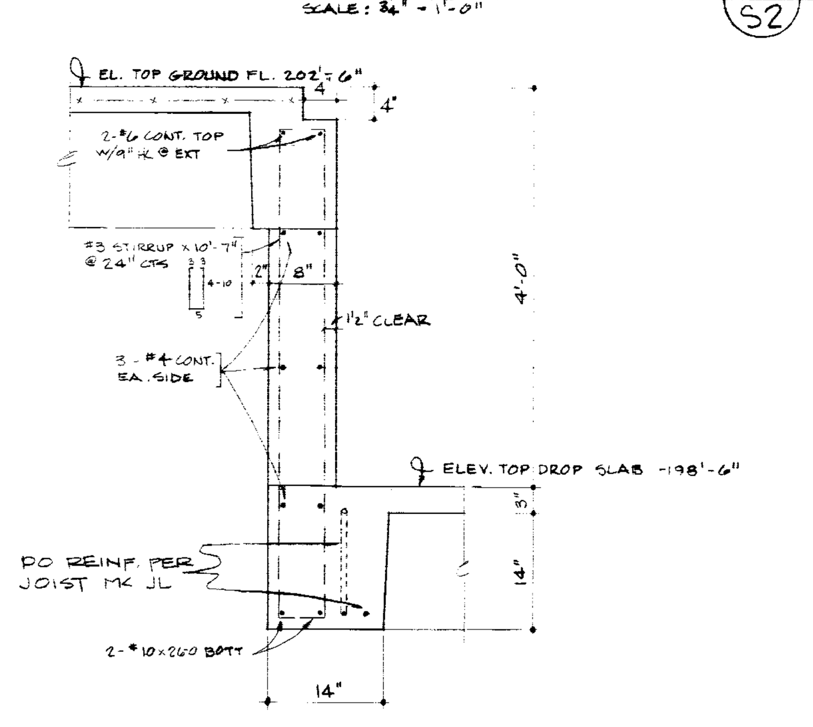
CASE STUDY FRAMING @ RISERS (A/S2)
SCALE: 3/4" = 1'-0"



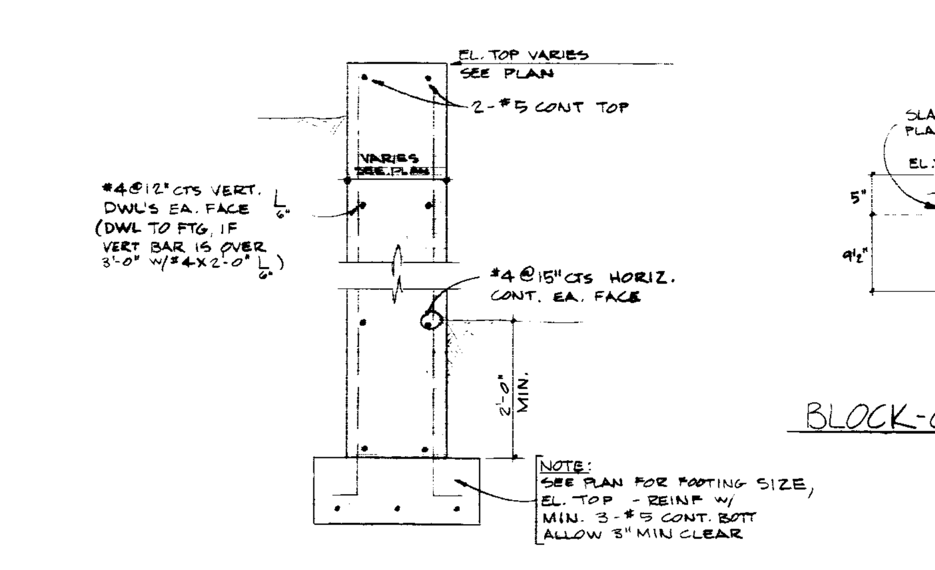
CASE STUDY ROOM FRAMING (F/S2)
SCALE: 3/4" = 1'-0"



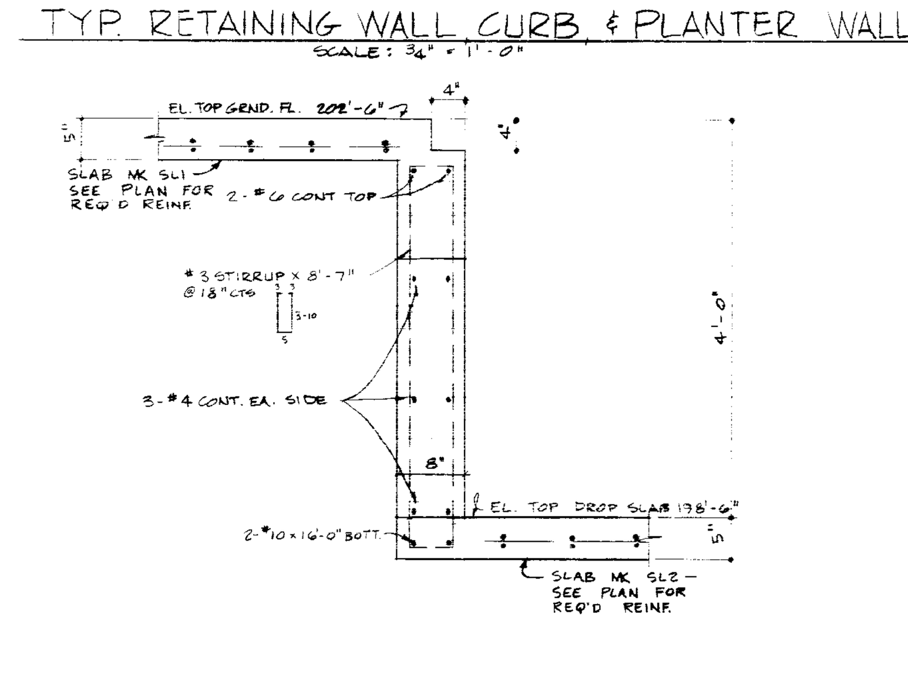
SLAB DTL. @ DOOR OPN'G (B/S2)
SCALE: 3/4" = 1'-0"



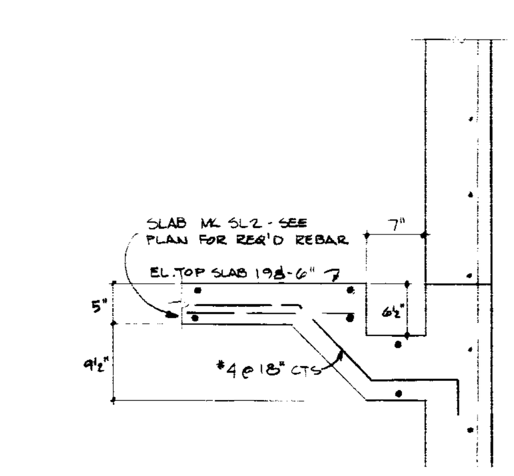
SLAB DROP @ CASE STUDY ROOMS (G/S2)
SCALE: 3/4" = 1'-0"



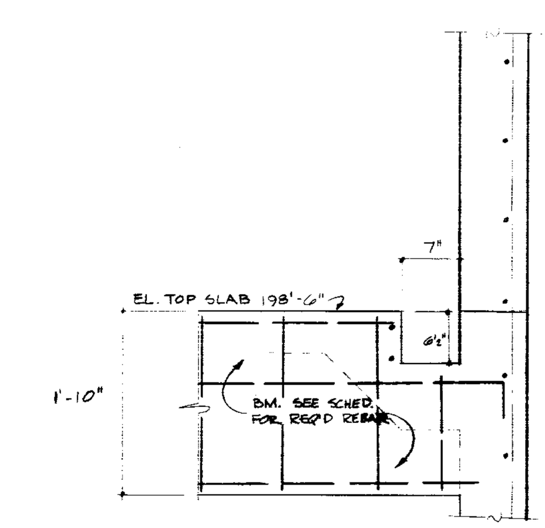
TYP. RETAINING WALL CURB & PLANTER WALL DTL (C/S2)
SCALE: 3/4" = 1'-0"



SLAB DROP @ CORRIDOR (H/S2)
3/4" = 1'-0"



BLOCK-OUT FOR CHALKBOARD (D/S2)
SCALE: 3/4" = 1'-0"



BLOCK-OUT FOR CHALKBOARD (E/S2)
SCALE: 3/4" = 1'-0"

GENERAL NOTES:

1. DESIGN STRESSES: CONCRETE - 4,000 PSI MIN @ 28 DAYS: REINFORCING STEEL - A-432 STEEL - 60,000 PSI YIELD MIN.
2. DESIGN LIVE LOADS: ROOF - 30 PSF: OFFICE & CLASS ROOM AREAS - 50 PSF: STAIRS & PUBLIC AREAS - 100 PSF: SOIL BEARING - 6,000 PSF MAX, 2,000 PSF MAX. FOR CURBS & RETAINING WALLS — IF POORER SOIL CONDITIONS ARE ENCOUNTERED FOOTINGS SHALL BE ADJUSTED AS DIRECTED BY THE ARCHITECT.
3. COLUMNS, PIERS & FOOTING CENTERED UNDER SUPPORTED MEMBERS UNLESS OTHERWISE INDICATED.
4. SIZE & ELEVATIONS OF FOUNDATION WALL FOOTINGS INDICATED ON PLAN THUS - SIZE (WxD) / ELEV. (TOP)
5. ELEVATION TOP OF FOUNDATION WALLS INDICATED THUS: (ELEV.)
   ELEVATION TOP OF BRICK LEDGE INDICATED THUS: (B.L. ELEV.)
6. PROVIDE 4" COMPACTED SAND FILL BELOW & UNDER ALL BUILDING WALL & COLUMN FOOTINGS. COMPACT TO MIN. 95% PROCTOR
7. CONCRETE PROTECTION FOR REINFORCING UNLESS OTHERWISE INDICATED SHALL BE 3/4" FOR JOISTS & SLABS: 1 1/2" CLEAR FOR BEAMS & COLUMNS: 2" CLEAR FOR FORMED EXPOSED SURFACES: AND 3" CLEAR FOR FOOTINGS.
8. LAP WALL REINFORCEMENT 20 BAR DIAMETERS (2'-0" MIN.) AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.
9. REINFORCING BAR QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.
10. REINFORCING BAR DETAILS SHALL BE PREPARED BY A LICENSED STRUCTURAL ENGINEER APPROVED BY THE ARCHITECT.
11. REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL.
12. SUPPORT REINFORCING WITH ACCESSORIES (UPTURNED & GALVANIZED LEGS FOR EXPOSED SURFACES) MAX. SPACING 48" CENTERS.
13. PROVIDE 10-#5 x 40-0 & 10-#4 x 40-0 MARK EX. EXTRA BARS FOR USE AS DIRECTED BY THE ARCHITECT.
14. HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE APPROVED BY THE ARCHITECT BEFORE PLACEMENT THRU STRUCTURAL MEMBERS.
15. DO NOT BACKFILL FOUNDATION WALLS UNTIL FLOOR SLAB IS IN PLACE OR ADEQUATE BRACING IS PROVIDED.
16. ALL INTERIOR SLABS ON GRADE SHALL BE 4" THICK ON COMPACTED SAND FILL WITH 1-LAYER 6 x 6 - 8/8 MESH UNLESS OTHERWISE NOTED.
17. ALL EXTERIOR SIDEWALK SLABS ON GRADE SHALL BE 6" THICK ON COMPACTED SAND FILL WITH 1-LAYER 6 x 6 - 8/8 MESH UNLESS OTHERWISE NOTED.
18. WHERE OPENINGS (5'-0" IN WIDTH OR GREATER) IN CONCRETE WALLS OCCUR, PROVIDE THE FOLLOWING MIN. REINFORCEMENT: 8" WALL - 2-#4 TOP AND BOTT. AT HEAD AND 1-#4 AT JAMBS: 12" WALL - 2-#5 TOP AND BOTT. AT HEAD & JAMBS.
19. CHAMFER ALL EXPOSED CORNERS OF BEAMS, COLUMNS, JOISTS & WALLS 3/4" UNLESS OTHERWISE INDICATED.
20. WELDING SHALL CONFORM TO A.W.S. SPECIFICATIONS.
21. STRUCTURAL CONCRETE MEMBERS SHALL BE CAMBERED, CROWNED OR SHORED TO ACCOMODATE DEAD LOAD DEFLECTIONS. SPECIFIC REQUIREMENTS SHALL BE COORDINATED WITH ARCHITECT OR ENGINEER.
22. BEAM CAMBER INDICATED ON PLAN THUS: △ 1/2"
23. ALL COVER SLABS OVER CONCRETE JOISTS SHALL BE 3" THICK WITH 1-LAYER 4 x 12 - 9/12 MESH.
24. METAL DECK SHALL BE 1 1/2" DEEP 22 GAGE W/MINIMUM SECTION MODULUS OF .17 IN^3 TYPE "R".
25. PRECAST CONCRETE MEMBERS, FRAMING & CONNECTIONS SHALL CONFORM TO THE LATEST P.C.I. SPECIFICATIONS.
26. CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS.

RICHARD HARTWELL LICENSED 1809 KANSAS PROFESSIONAL ENGINEER

FEAGINS and KIRSCH
ARCHITECTS A.I.A.
5416 E. CENTRAL
MU4-6576 WICHITA, KS.

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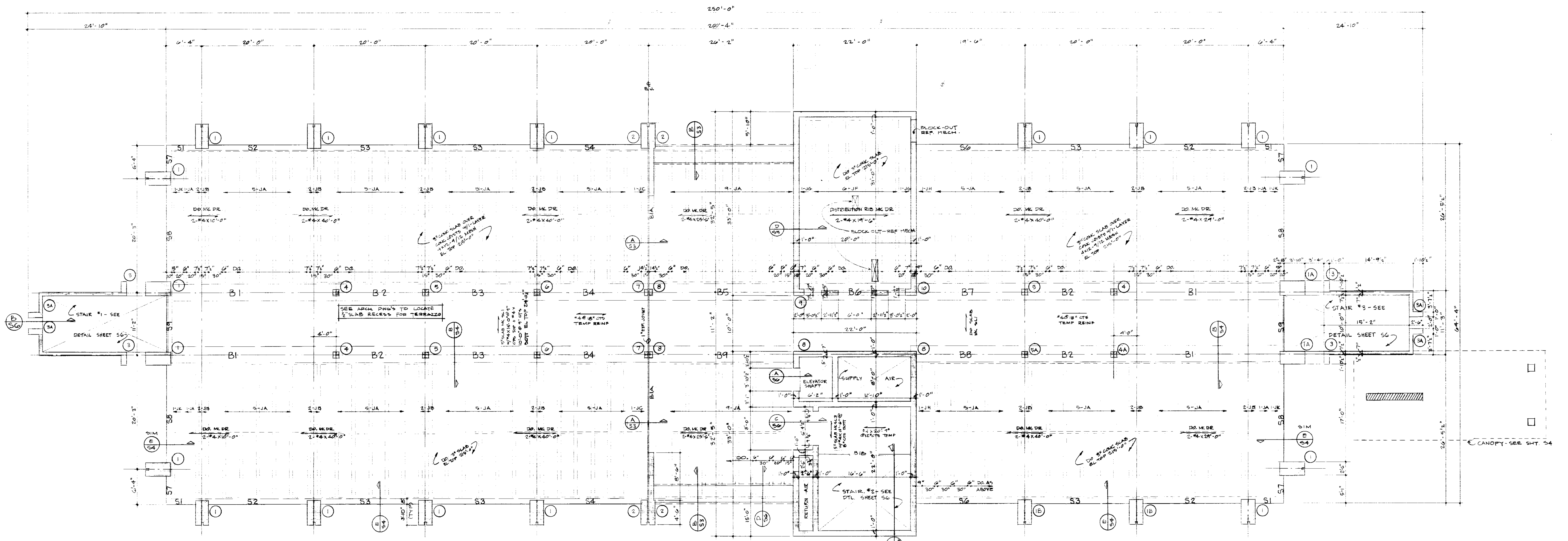
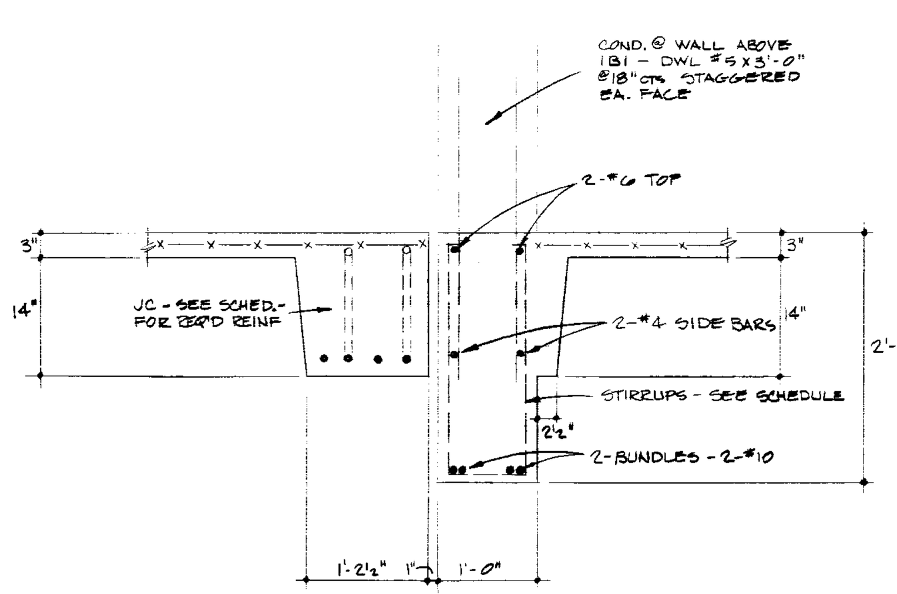
DD 4C



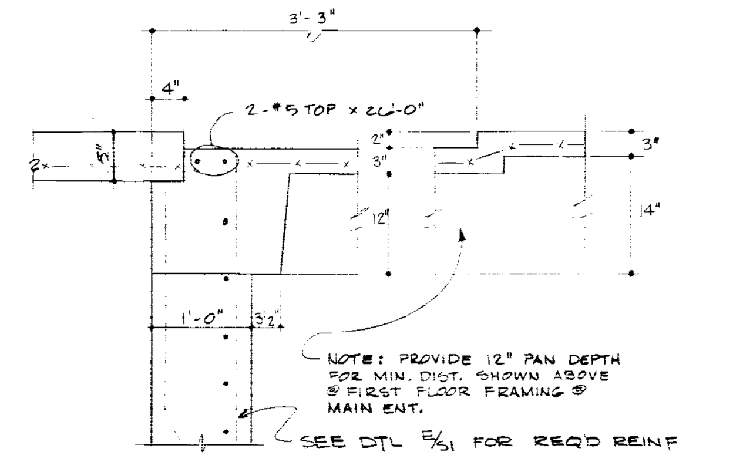
FIRST FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"



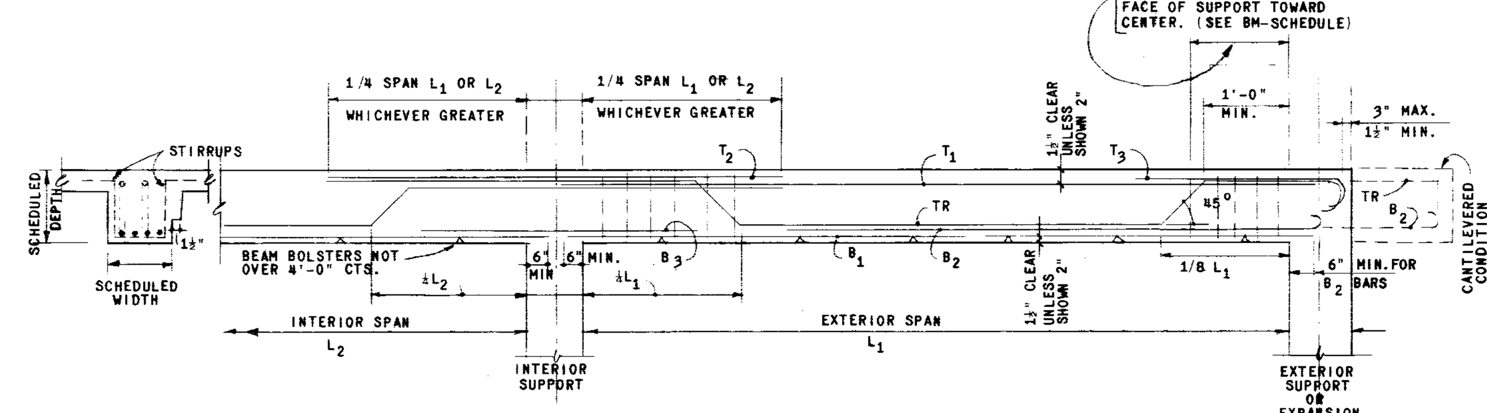
FIRST FLOOR FRAMING - B1A DTL. (A / S3)

SCALE: 3/4" = 1'-0"



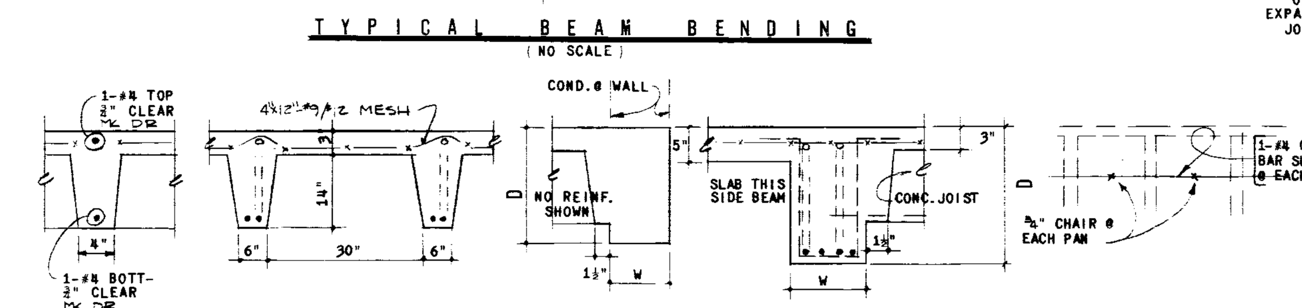
FRAMING @ MAIN ENT. (B / S3)

SCALE: 3/4" = 1'-0"



TYPICAL BEAM BENDING

(NO SCALE)



DISTRIBUTION RIB — TYPICAL JOIST — SPANDREL BEAM OR WALL — BEAM — PLAN

TYPICAL DETAILS - ONE WAY JOIST

(NO SCALE)

POSITION LEGEND:

S - INDICATES BARS IN SECOND LAYER OR SPLICE LAYER

B - INDICATES BARS TO BE BUNDLED - SEE REMARKS FOR BAR GROUPING

BOTTOM BARS:

B1 BOTTOM BARS, CENTER BAR ON SPAN

B2 BOTTOM BARS PLACE BAR END @ EXTERIOR SUPPORT

B3 BOTTOM BARS CENTER BAR OVER INTERIOR SUPPORT

TR TRUSS BAR

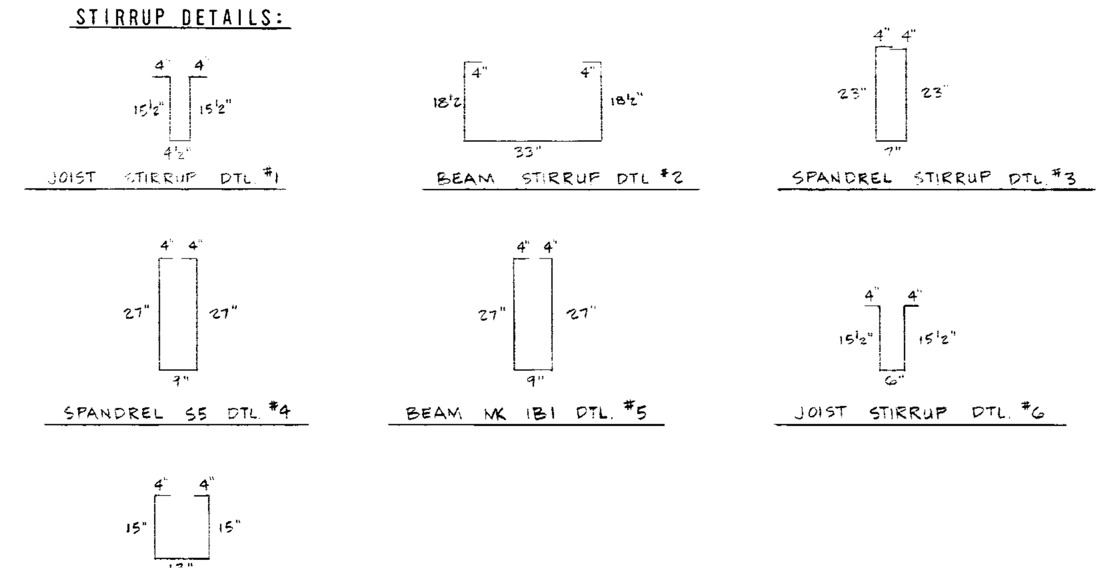
TOP BARS:

T1 TOP BARS CENTER BAR ON SPAN

T2 TOP BARS CENTER BAR OVER INTERIOR SUPPORT

T3 TOP BARS END HOOK @ EXTERIOR SUPPORT

STIRRUP DETAILS:



JOIST STIRRUP DTL. #1 — BEAM STIRRUP DTL. #2 — SPANDREL STIRRUP DTL. #3 — SPANDREL SE DTL #4 — BEAM MK B1 DTL #5 — JOIST STIRRUP DTL #6 — BM. MK B1A STIRRUP DTL #7

FLOOR FRAMING - CONCRETE SPANDRELS, BEAMS, AND JOIST SCHEDULE

BEAM MK	NO	SIZE W X D	BOTTOM BARS NO.	SIZE	LENGTH	HOOKS	POSITION	TRUSS BARS NO.	SIZE	LENGTH	HOOKS	POSITION	TOP BARS NO.	SIZE	LENGTH	HOOKS	POSITION	STIRRUPS NO.	SIZE	LENGTH	SPACING	DETAIL	NO. SUPT. CHAIRS REQ'D.	REMARKS
JA	230	6" x 1'-5"	1	#8	25'-6"	-	B1	1	#8	33'-4"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	7@3/4"	ALL JOIST TRUSS BARS TO BE ⅝ THUS 15" 15½"
JB	68	7½"x1'-5"	2	#7	25'-6"	-	B1	1	#8	33'-4"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	7@3/4"	DO.
JC	8	14½"x1'-5"	2	#8	25'-6"	-	B1	2	#8	33'-4"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	7@3/4"	
JD	2	14½"x1'-5"	2	#7	17'-0"	-	B1	2	#6	24'-9"	1 @ 9"	TR	-	-	-	-	-	-	-	-	-	-	5@3/4"	
JE	18	6"x1'-5"	1	#7	17'-0"	-	B1	1	#6	24'-9"	1 @ 9"	TR	-	-	-	-	-	-	-	-	-	-	5@3/4"	
JF	18	6"x1'-5"	1	#10	32'-6"	-	B1	1	#10	39'-0"	1 @ 15"	TR	-	-	-	-	-	-	-	-	-	-	8@3/4"	
JG	6	7"x1'-5"	1	#10	32'-6"	-	B1	1	#10	39'-0"	1 @ 15"	TR	-	-	-	-	-	-	-	-	-	-	8@3/4"	
JH	6	9"x1'-5"	2	#7	25'-6"	-	B1	1	#8	33'-4"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	7@3/4"	
JK	8	5"x1'-5"	1	#8	25'-6"	-	B1	1	#8	33'-4"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	7@3/4"	
JL	28	6"x1'-5"	1	#10	25'-6"	-	B1	1	#10	33'-7"	1 @ 15"	TR	-	-	-	-	-	4 5	#3 #3	3'-7½" 3'-7½"	4 @ 12" 5 @ 12"	1	7@3/4"	STIRRUPS @ EXT. SUPT. STIRRUPS @ INT. SUPT.
JM	16	7½"x1'-5"	1	#10	25'-6"	-	B1	1	#10	33'-7"	1 @ 15"	TR	-	-	-	-	-	4 5	#3 #3	3'-9" 3'-9"	4 @ 12" 5 @ 12"	6	7@3/4"	DO. STIRRUPS
JN	4	5"x1'-5"	1	#9	25'-6"	-	B1	1	#9	33'-4"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	7@3/4"	
B1A	2	12"x2'-6"	4	#10	26'-6"	-	B1	-	-	-	-	-	2	#6	28'-0"	2@9"	T1	24	#4	5'-11"	24@12"	5	7@1½"	SEE DTL. A - THIS SHEET
			BOTTOM BARS - 2 BUNDLES, 2-#10																					
B1	8	3'-0"x1'-10"	5	#9	33'-0"	1@12"	B2	4	#9	40'-0"	1 @ 12"	TR	3	#6	16'-3"	1@9"	T3	15	#3	6'-5"	24" CTS	2	8@1½"	
B2	8	3'-0"x1'-10"	3	#5	16'-0"	-	B1	-	-	-	-	-	4 3	#6 #6	40'-0" 31'-6"	- -	T1 T1	8	#3	6'-5"	24" CTS	2	4@1½"	SEE STIRRUP DETAILS.
B3	4	3'-0"x1'-10"	3	#5	19'-10"	-	B1	4	#5	32'-2"	-	TR	3	#6	21'-0"	-	T2	10	#3	6'-5"	24" CTS.	2	5@1½"	B2 - 3-#6 TOP EXTENDS 9'-6" INTO B1
B4	4	3'-0"x1'-10"	3	#5	20'-0"	1@6"	B1	4	#7	27'-0"	1 @ 9"	TR	3	#6	11'-4"	1@9"	T3	10	#3	6'-5"	24" CTS.	2	5@1½"	- 4-#6 TOP EXTEND 14'-0" INTO B1
B5	3	3'-0"x1'-10"	5	#8	26'-3"	-	B1	4	#8	34'-3"	1 @ 12"	TR	3	#6	14'-6"	1@9"	T3	13	#3	6'-5"	24" CTS.	2	7@1½"	
B6	3	3'-0"x1'-10"	3	#5	20'-10"	-	B1	4	#8	34'-6"	-	TR	3	#6	23'-0"	-	T2 @ COL 9	11	#3	6'-5"	24" CTS.	2	6@1½"	
B7	3	3'-0"x1'-10"	3	#5	20'-0"	-	B1	4	#7	32'-4"	-	TR	3	#6	20'-6"	-	T2 @ COL 10	10	#3	6'-5"	24" CTS.	2	5@1½"	
B8	2	3'-0"x1'-10"	3	#5	20'-0"	-	B1	4	#7	26'-5"	1@9"	TR	3	#6	10'-9"	1@9"	T3	11	#3	6'-5"	24" CTS.	2	5@1½"	
B9	3	3'-0"x1'-10"	5	#10	28'-9"	2@15"	B1	4	#8	30'-0"	2@12"	TR	3	#5	27'-9"	2@6"	T1	14	#3	6'-5"	24" CTS.	2	7@1½"	
B10	2	3'-0"x1'-10"	3	#5	13'-6"	-	B1	4	#6	20'-0"	1@9"	TR	3	#5	13'-6"	-	T1	7	#3	6'-5"	24" CTS.	2	4@1½"	MAKE TRUSS BARS 1'-0" o/o @ EXTERIOR END.
B11	2	3'-0"x1'-10"	3	#6	16'-3"	-	B1	4	#8	33'-3"	1@12"	TR	3	#5	16'-3"	-	T1	8	#3	6'-5"	24" CTS.	2	4@1½"	
B12	4	3'-0"x1'-10"	3	#5	16'-0"	-	B1	4	#6	23'-0"	1@9"	TR	3	#5	15'-10"	-	T1	8	#3	6'-5"	24" CTS.	2	4@1½"	
B13	2	3'-0"x1'-10"	3	#5	20'-0"	-	B1	4	#7	31'-9"	-	TR	3	#5	19'-10"	-	T1	10	#3	6'-5"	24" CTS.	2	5@1½"	
B14	2	3'-0"x1'-10"	3	#7	19'-6"	-	B1	4	#7	27'-0"	1@9"	TR	3	#5	19'-6"	-	T1	10	#3	6'-5"	24" CTS.	2	5@1½"	
B15	2	3'-0"x1'-10"	3	#6	14'-8"	-	B1	4	#7	21'-0"	1@9"	TR	3	#5	14'-8"	-	T1	8	#3	6'-5"	24" CTS.	2	4@1½"	
B16	2	3'-0"x1'-10"	3	#6	15'-3"	-	B1	4	#7	21'-6"	1@9"	TR	3	#5	15'-3"	-	T1	7	#3	6'-5"	24" CTS.	2	4@1½"	DO. NOTE B10
B17	1	3'-0"x1'-10"	3	#6	20'-0"	-	B1	4	#8	27'-9"	1@12"	TR	3	#5	20'-0"	-	T1	10	#3	6'-5"	24" CTS.	2	5@1½"	
B18	3	1'-0"x1'-8"	4	#8	19'-6"	2@12"	B1	-	-	-	-	-	2	#5	19'-0"	2@6"	T1	17	#3	4'-3"	12" CTS.	7	5@1½"	
S1	8	10"x2'-2"	2	#5	EXTENSION OF BOTT. BARS FOR S2			-	-	-	-	-	1 1	#8 #9	EXTENSION OF TR BARS FOR S2			4	#3	5'-1"	4 @ 12"	3	2@1½"	DWL. TOP & BOTTOM BARS TO SIMILAR BARS IN S7 W/#5x4'-0" 2'-0"
S2	8	10"x2'-2"	2	#5	26'-0"	-	EXTEND TO S1	1 1	#8 #9	33'-4" 33'-4"	- -	TR TR	2	#4	17'-6"	-	T1	7 7	#4 #4	5'-1" 5'-1"	7 @ 12" 7 @ 12"	3	5@1½"	
S3	12	10"x2'-2"	2	#5	20'-0"	-	B1	2	#8	32'-9"	-	TR	2	#4	17'-6"	-	T1	6 6	#4 #4	5'-1" 5'-1"	6 @ 12" 6 @ 12"	3 3	5@1½"	
S4	4	10"x2'-2"	2	#5	20'-0"	-	B1	2	#9	27'-6"	1@12"	TR	2	#4	18'-6"	-	T1	7 7	#4 #4	5'-1" 5'-1"	7 @ 12" 7 @ 12"	3	5@1½"	
S5	2	12"x2'-6"	2	#9	28'-0"	2@12"	B1	2	#8	29'-9"	2@12"	TR	2	#5	26'-0"	-	T1	17	#4	5'-11"	17 @ 18"	4	7@1½"	SEE DTL. A SHEET S4
S6	4	10"x2'-2"	2	#5	20'-6"	-	B1	2	#9	28'-2"	1@12"	TR	2	#4	18'-3"	-	T1	7 7	#4 #4	5'-1" 5'-1"	7 @ 12" 7 @ 12"	3 3	5@1½"	
S7	8	10"x2'-2"	2	#5	EXTENSION OF BOTT. BARS FOR S8			-	-	-	-	-	2 2	#5 #8	BARS EXTENDED FROM S8			4	#3	5'-1"	4 @ 12"	3	2@1½"	
S8	8	10"x2'-2"	2	#5	26'-6"	-	EXTEND TO S7	2	#8	32'-6"	-	TR	2	#5	25'-0"	-	EXTEND TO S7	17	#3	5'-1"	17 @ 12"	3	5@1½"	
S9	4	10"x2'-2"	2	#5	13'-0"	-	B1	-	-	-	-	-	2	#5	22'-0"	-	T1	10	#3	5'-1"	10 @ 12"	3	3@1½"	

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WILLIAM R. HALE ~ STATE ARCHITECT
TOPEKA KANSAS
PROJECT NO 4-6.003 04-0

THE ADDITION TO NEFF HALL
for WICHITA STATE UNIVERSITY
1845 FAIRMOUNT STREET
WICHITA, KANSAS

REVISED

DRAWN BY GOSSEN

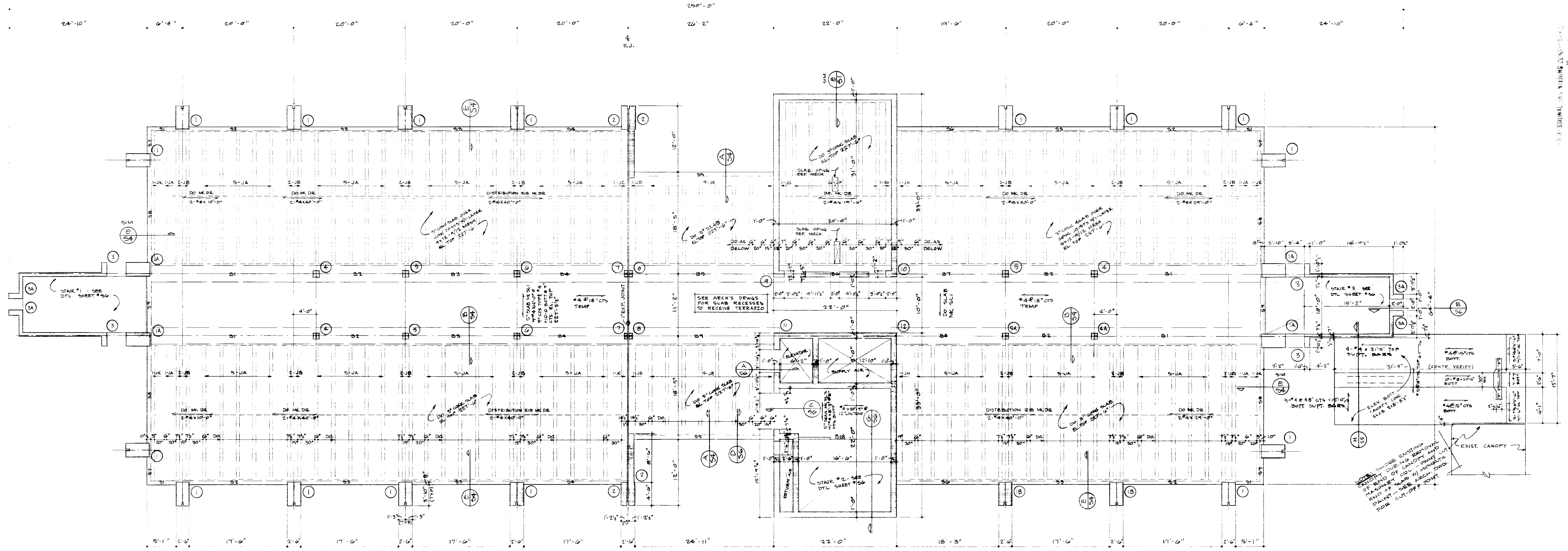
CHECKED BY HARTWELL

DATE MARCH 15, 1968

JOB NO. A-1290

SHEET NO. S-3 of 6

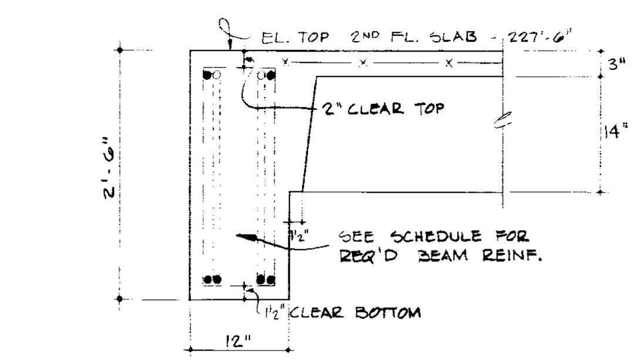
DD 4C



SECOND FLOOR FRAMING PLAN

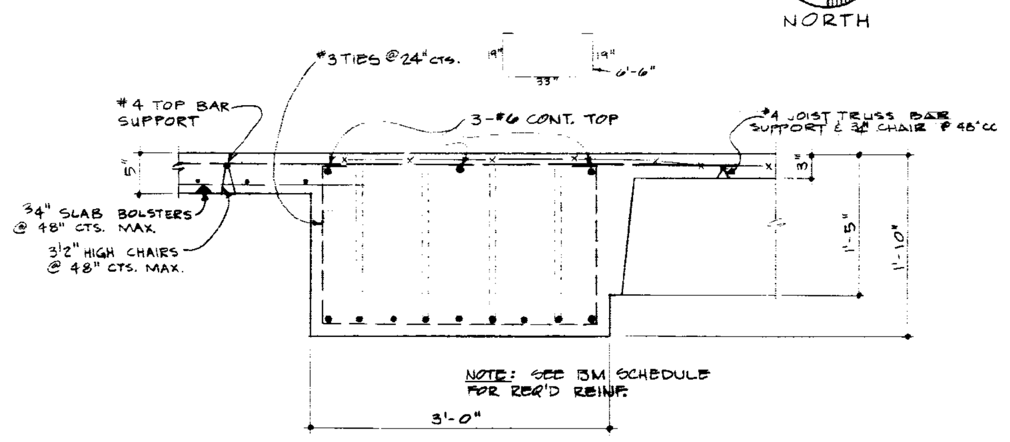
SCALE: 1/8" = 1'-0"

NORTH



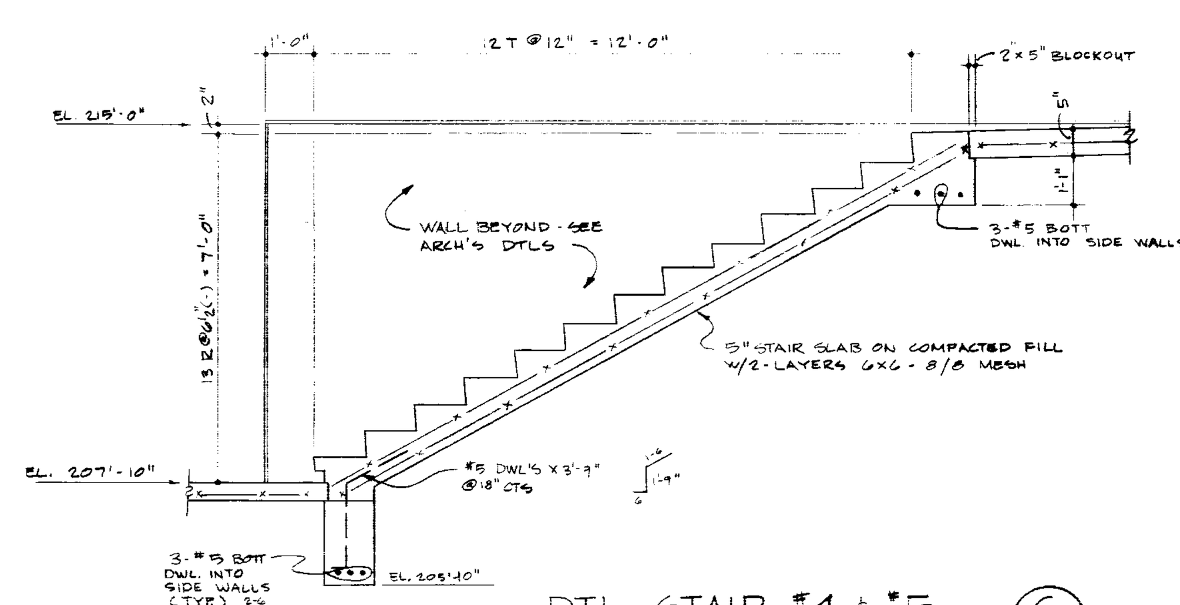
SPANDREL ML 55 (A/S4)

SCALE: 3/4" = 1'-0"



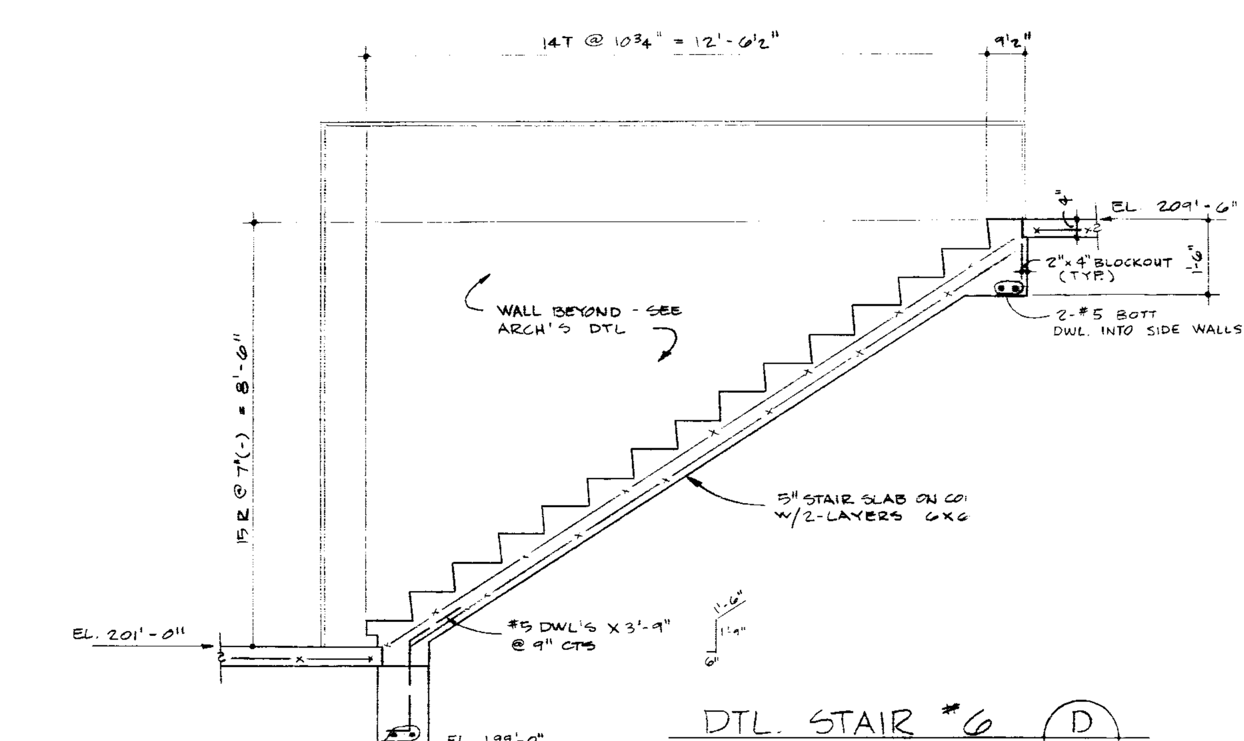
TYPICAL CORRIDOR BEAM DTL. (B/S4)

SCALE: 3/4" = 1'-0"



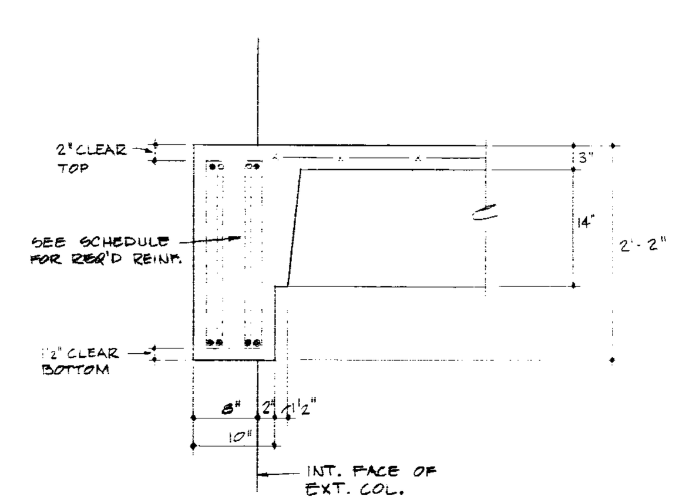
DTL. STAIR #4 & #5 (C/S4)

SCALE: 3/8" = 1'-0"



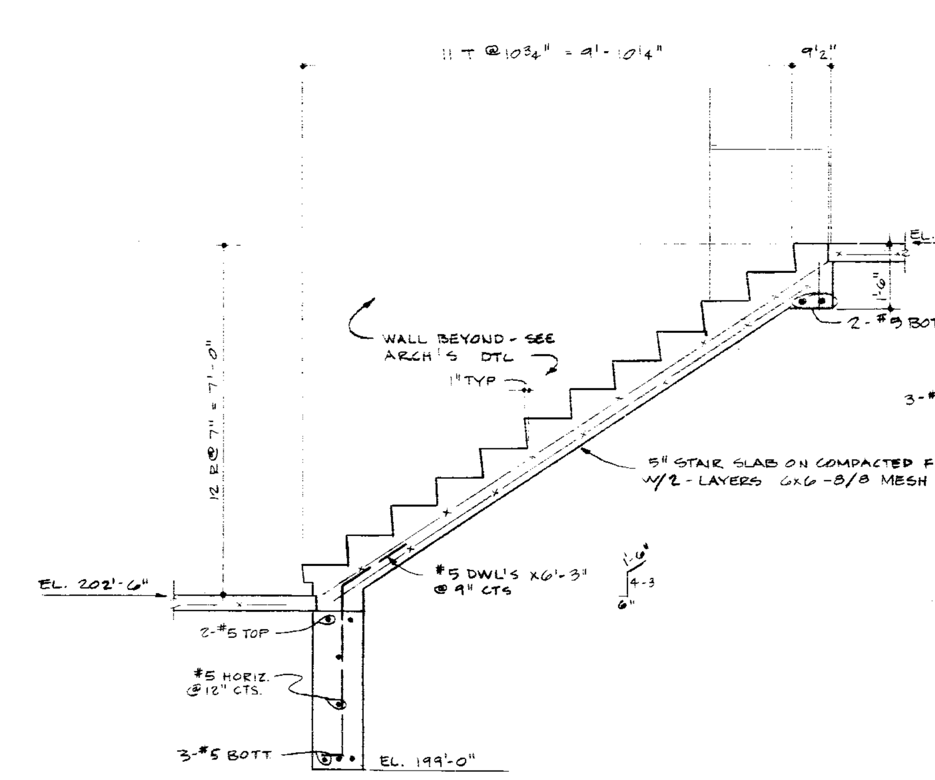
DTL. STAIR #6 (D/S4)

SCALE: 3/8" = 1'-0"



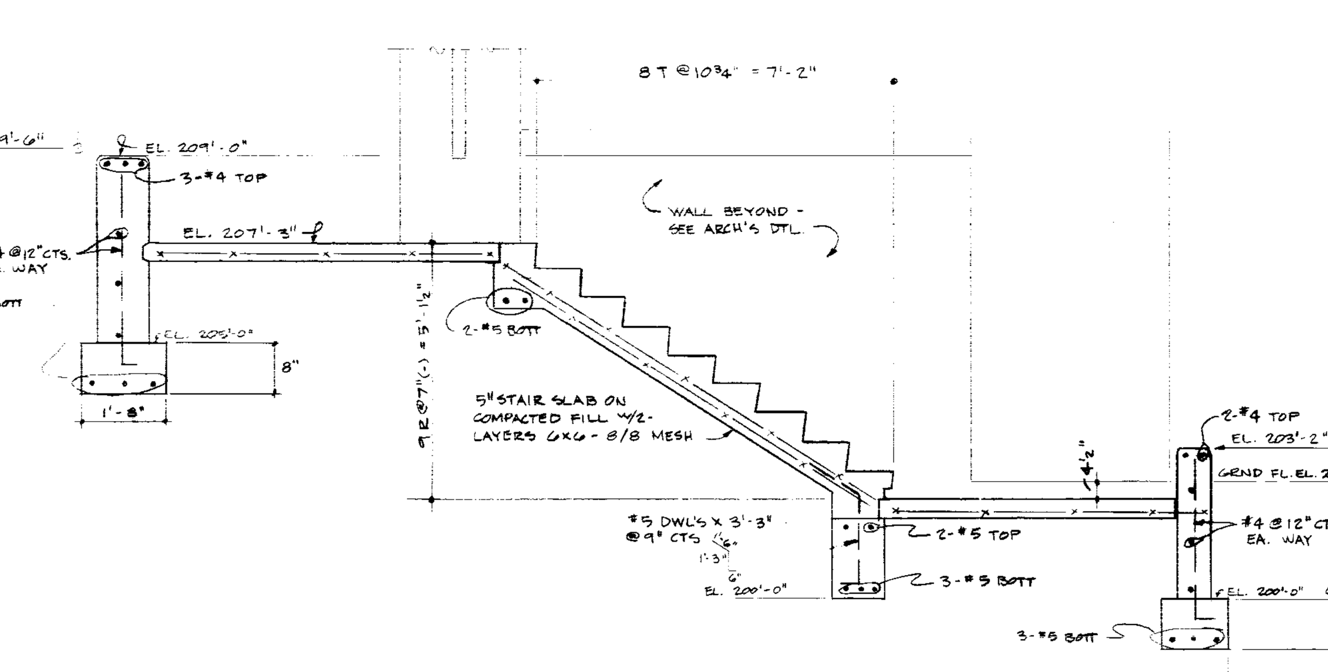
SPANDREL BEAM DTL. (E/S4)

SCALE: 3/4" = 1'-0"



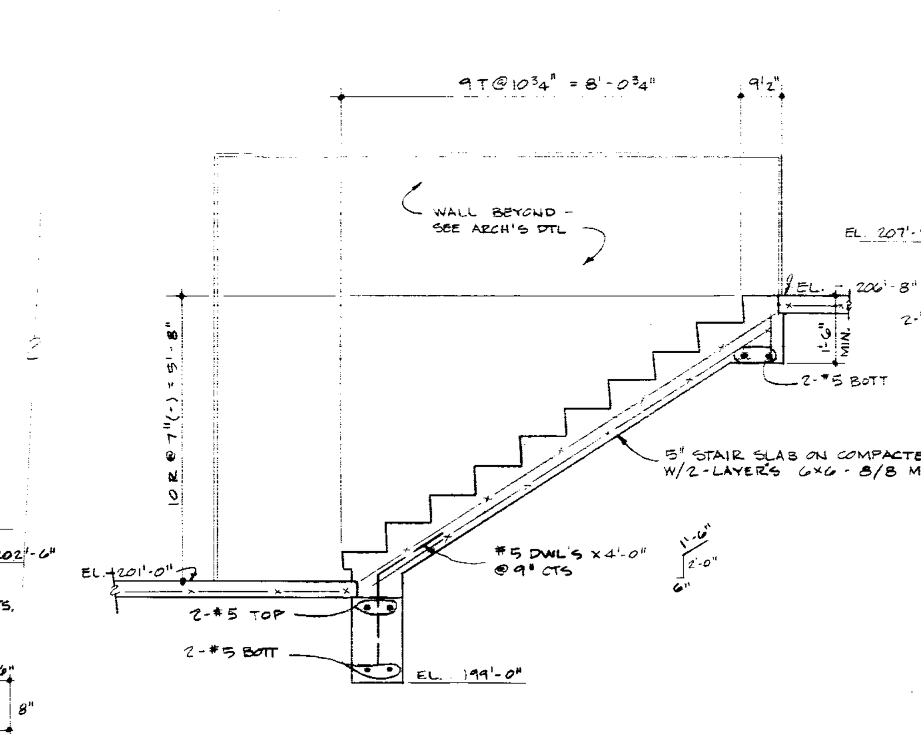
DTL. STAIR #7 (F/S4)

SCALE: 3/8" = 1'-0"



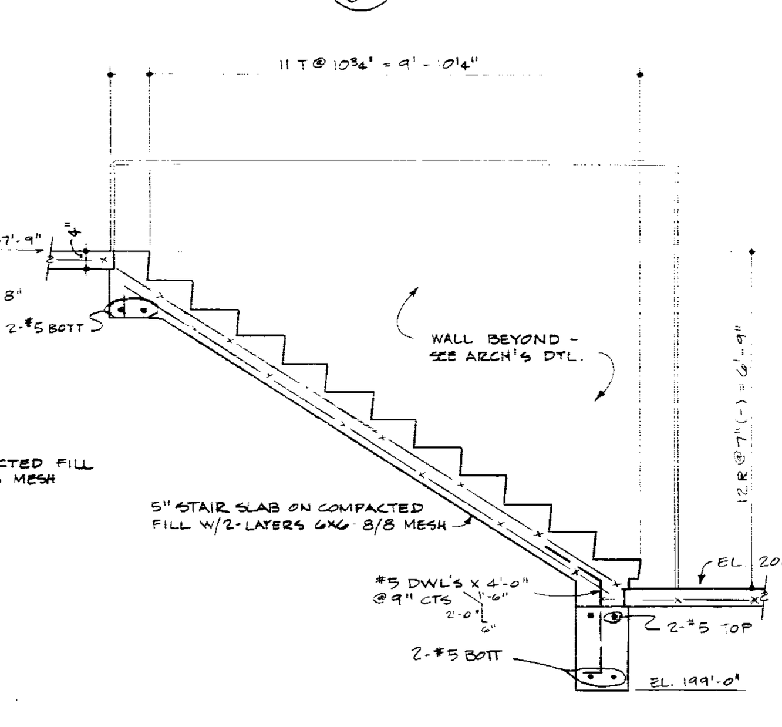
DTL. STAIR #8 (G/S4)

SCALE: 3/8" = 1'-0"



DTL. STAIR #9 (H/S4)

SCALE: 3/8" = 1'-0"



DTL. STAIR #10 (J/S4)

SCALE: 3/8" = 1'-0"

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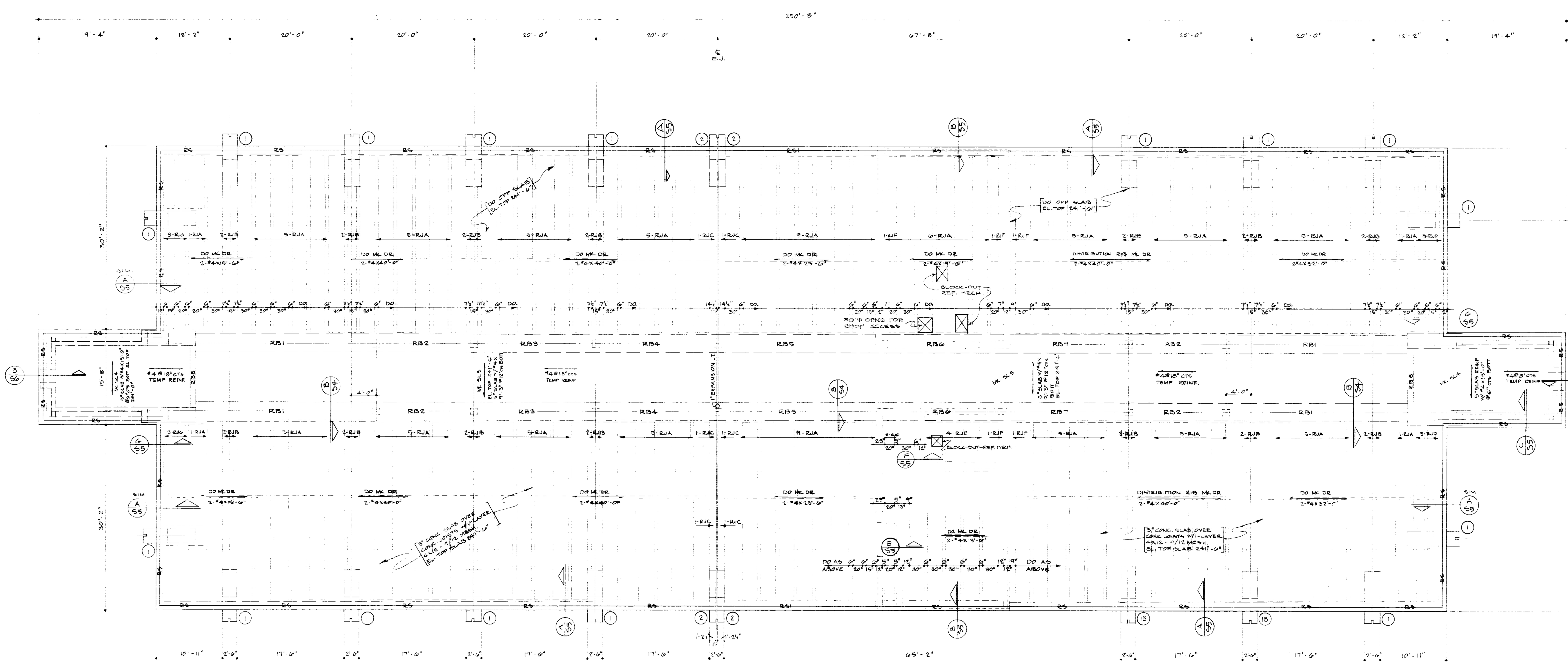
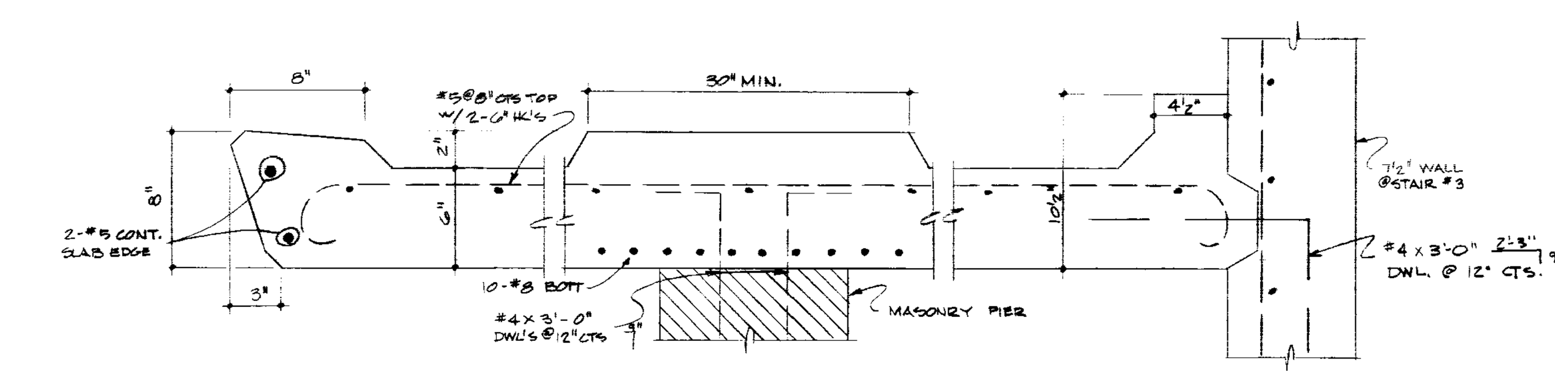


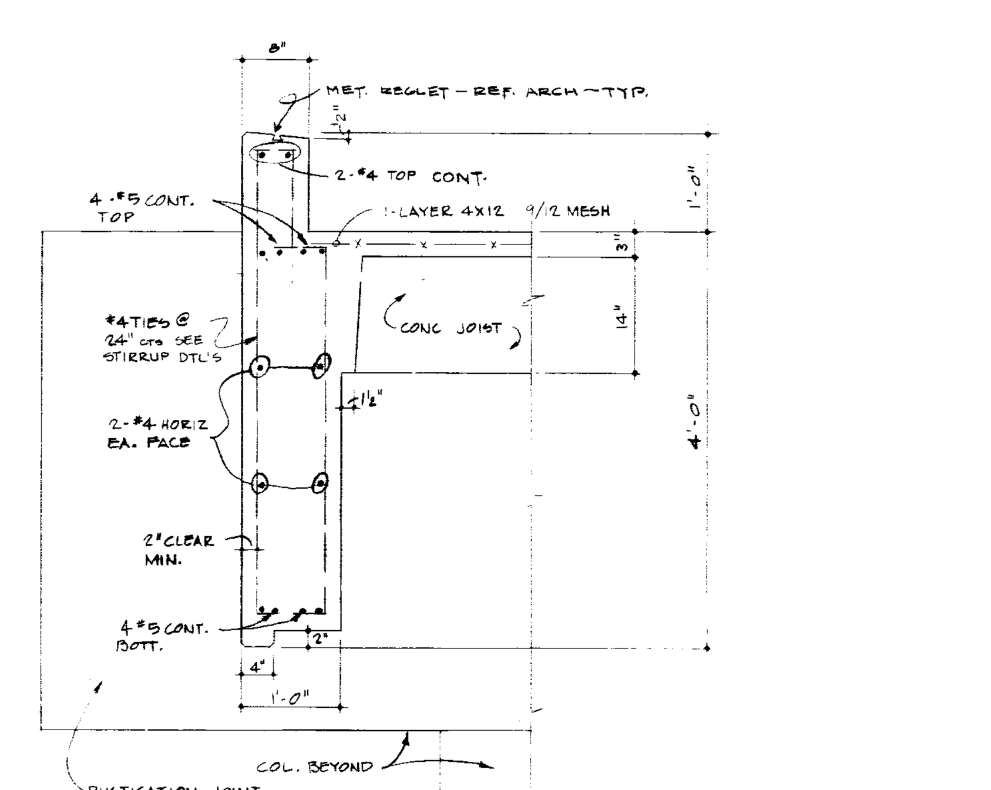
ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"



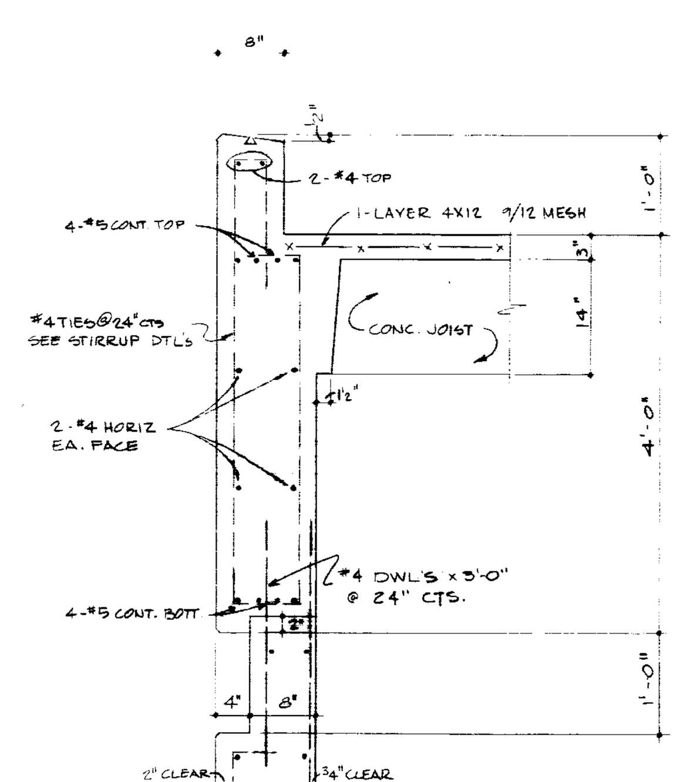
SECT. THRU CANOPY (H/S5)

SCALE 1/2" = 1'-0"



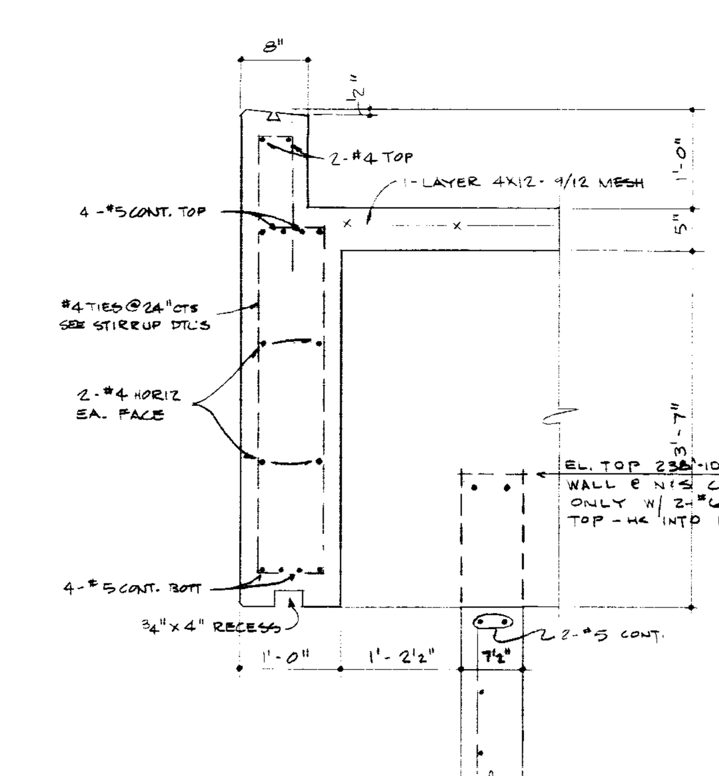
N.&S. ROOF SPANDREL FRAMING TO COL. (A/S5)

SCALE: 3/4" = 1'-0"



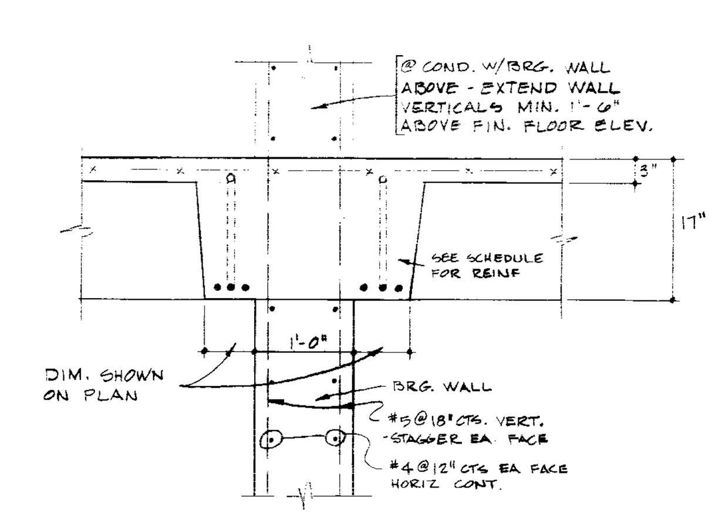
SPANDREL @ BRG WALL (B/S5)

SCALE: 3/4" = 1'-0"



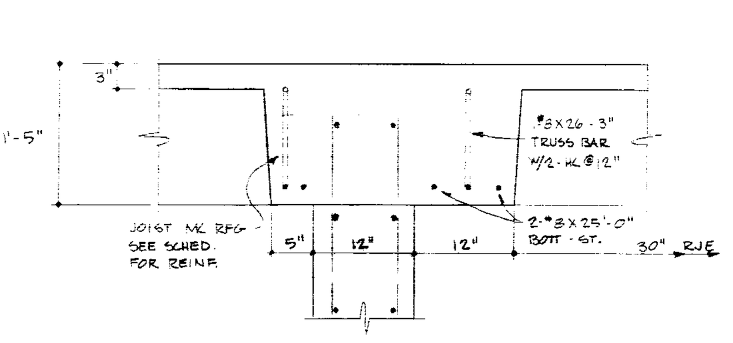
SPANDREL @ #1 & 3 STAIR (C/S5)

SCALE: 3/4" = 1'-0"



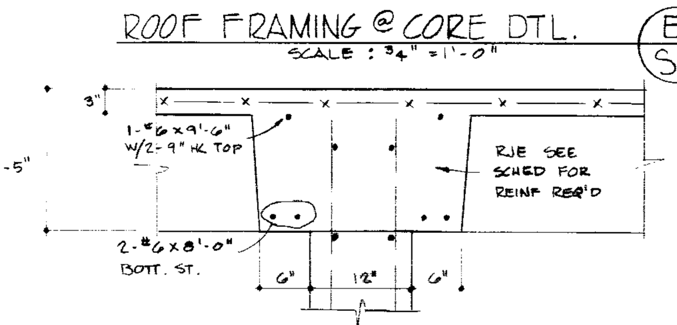
JOIST DTL. @ BRG WALL (D/S5)

SCALE: 3/4" = 1'-0"



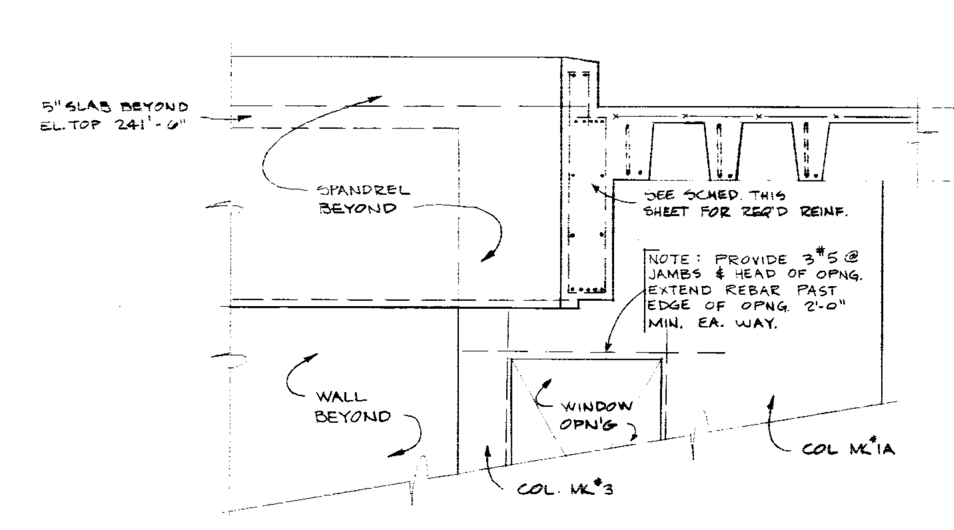
ROOF FRAMING @ CORE DTL. (E/S5)

SCALE: 3/4" = 1'-0"



ROOF FRAMING @ CORE DTL. (F/S5)

SCALE: 3/4" = 1'-0"



COL. DTL - #1 & 3 @ STAIR (G/S5)

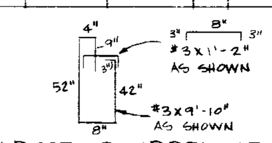
SCALE: 3/8" = 1'-0"

ROOF FRAMING

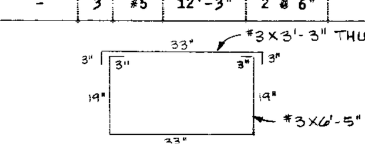
CONCRETE SPANDRELS, BEAMS, AND JOIST SCHEDULE

BEAM MK	NO.	SIZE W X D	BOTTOM BARS NO.	SIZE	LENGTH	HOOKS	POSITION	TRUSS BARS NO.	SIZE	LENGTH	HOOKS	POSITION	TOP BARS NO.	SIZE	LENGTH	HOOKS	POSITION	STIRRUPS NO	SIZE	LENGTH	SPACING	DETAIL	NO. SUPT. CHAIRS REQ'D.	REMARKS
RS		1'-0"x4'-0"	4	#5	CONTINUOUS			-	-	-	-	-	4	#5	CONTINUOUS		T3	290	#4 #4	9'-10" 1'-2"	24" CTS. 24" CTS.	1	150@2"	SPLICE TOP BAR IN MID-SPAN - BOTTOM BAR. SPLICE AT SUPPORTS - LAP ALL BARS 24d - SEE DTL. FOR SIDE BARS.
RS1	2	1'-0"x4'-0"	6	#5	28'-6"	1@6"		-	-	-	-	-	4	#8	33'-0"	1@12"	T3	13 13	#4 #4	9'-10" 1'-2"	24" CTS. 24" CTS.	1	7@2"	
RJA	98	6" x 1'-5"	1	#8	31'-6"	-	B1	1	#8	40'-0"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	8 @ 3/4"	NOTE: ALL JOIST TRUSS BARS 15½" o/o
RJB	28	7½" x 1'-5"	1	#8	31'-6"	-	B1	1	#8	40'-0"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	8 @ 3/4"	
RJC	4	1'-2½"x1'-5"	2	#8	31'-6"	-	B1	2	#8	40'-0"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	8 @ 3/4"	
RJD	12	6" x 1'-5"	2	#8	31'-6"	-	B1	-	-	-	-	-	1	#7	40'-0"	1 @ 9"	T2	-	-	-	-	-	8 @ 3/4"	
RJE	4	6" x 1'-5"	2	#8	31'-6"	-	B1	-	-	-	-	-	1	#7	40'-0"	1 @ 9"	T2	-	-	-	-	-	8 @ 3/4"	
RJF	5	WIDTH VARIES SEE PLAN	2	#8	31'-6"	-	B1	1	#8	40'-0"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	8 @ 3/4"	
RJG	2	5" x 1'-5"	1	#8	31'-6"	-	B1	1	#8	40'-0"	1 @ 12"	TR	-	-	-	-	-	-	-	-	-	-	8 @ 3/4"	
RB1	4	3'-0"x1'-10"	5	#9	33'-0"	1 @ 12"	B2	4	#8	40'-0"	1 @ 12"	TR	3	#6	37'-6"	-	T1	15 15	#3 #3	3'-3" 6'-5"	24" CC 24" CC	2 2	8 @ 1½"	
RB2	4	3'-0"x1'-10"	3	#5	16'-0"	-	B1	-	-	-	-	-	6	#6	28'-3"	- -	T1 T1	8 8	#3 #3	3'-3" 6'-5"	24" CC 24" CC	2 2	4 @ 1½"	
RB3	2	3'-0"x1'-10"	3	#5	20'-0"	-	B1	4	#5	31'-4"	-	TR	3	#6	30'-0"	-	T1	10 10	#3 #3	3'-3" 6'-5"	24" CC 24" CC	2 2	5 @ 1½"	
RB4	2	3'-0"x1'-10"	3	#5	20'-0"	1 @ 6"	B2	4	#6	27'-0"	1 @ 9"	TR	3	#6	25'-0"	-	T2	10 10	#3 #3	3'-3" 6'-5"	24" CC 24" CC	2 2	5 @ 1½"	
RB5	2	3'-0"x1'-0"	3	#5	32'-0"	1 @ 6"	B2	4	#10	35'-3"	1 @ 15"	TR	3	#6	32'-0"	-	T2	13 13	#3 #3	3'-3" 6'-5"	24" CC 24" CC	2 2	7 @ 1½"	
RB6	2	3'-0"x1'-0"	3	#6	21'-0"	-	B1	-	-	-	-	-	7	#6	33'-3"	-	T1	11 11	#3 #3	3'-3" 6'-5"	24" CC 24" CC	2 2	6 @ 1½"	
RB7	2	3'-0"x1'-0"	3	#5	20'-0"	-	B1	4	#6	31'-4"	-	TR	3	#6	30'-0"	-	T1	10 10	#3 #3	3'-3" 6'-5"	24" CC 24" CC	2 2	5 @ 1½"	
RB8	2	10" x 2'-2"	3	#5	12'-6"	2 @ 6"	B1	-	-	-	-	-	3	#5	12'-3"	2 @ 6"	T1	-	-	-	-	-	3 @ 1½"	

STIRRUP DETAILS:



DTL #1 ROOF SPANDREL STIRRUPS



DTL #2 ROOF BM STIRRUP

POSITION LEGEND

S- INDICATES BARS IN SECOND OR SPLICE LAYER.

B- INDICATES BARS TO BE BUNDLED - SEE REMARKS FOR BAR GROUPING.

BOTTOM BARS

B1 BOTTOM/CENTER BAR ON SPAN

B2 BOTTOM BARS PLACE BAR END @ EXTERIOR SUPPORT

B3 BOTTOM BARS CENTER BAR OVER INTERIOR SUPPORT

TR TRUSS BAR

TOP BARS

T1 TOP BARS CENTER BAR ON SPAN

T2 TOP BARS CENTER BAR OVER INTERIOR SUPPORT

T3 TOP BARS END HOOK @ EXTERIOR SUPPORT

THE ADDITION TO NEFF HALL for WICHITA STATE UNIVERSITY
1845 FAIRMOUNT STREET
WICHITA, KANSAS

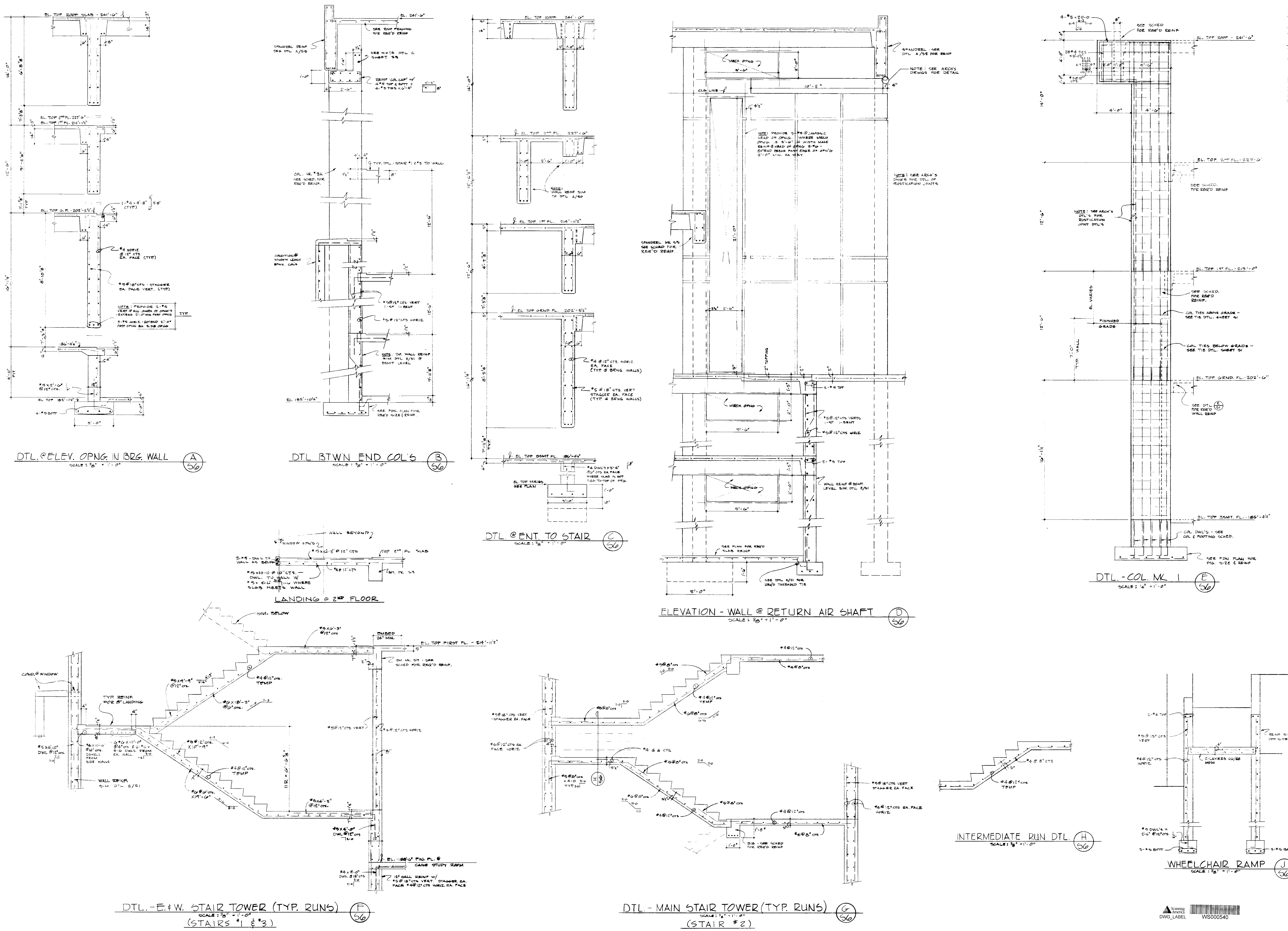
STATE OF KANSAS
DEPARTMENT OF ADMINISTRATION
ARCHITECTURAL SERVICES DIVISION
WILLIAM R. HALE ~ STATE ARCHITECT
TOPEKA, KANSAS
PROJECT NO 4-6-00304-0

FEAGINS and KIRSCH ARCHITECTS A I A
6418 E. CENTRAL MU4-6676 WICHITA, KS.

REVISED

DRAWN BY GOSSEN
CHECKED BY HARTWELL
DATE MARCH 15, 1968
JOB NO. A-290
SHEET NO. S-5
6

DD 4C



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THE ADDITION TO NEFF HALL
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1845 FAIRMOUNT STREET
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JOB NO. A-1290

SHEET NO. S-6 of 6

DD 4C